



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**AIRWAVES AND MICROBLOGS: A STATISTICAL
ANALYSIS OF AL-SHABAAB'S PROPAGANDA
EFFECTIVENESS**

by

Timothy A. Sikorski

December 2014

Thesis Advisor:
Second Reader:

Camber Warren
Glenn E. Robinson

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE December 2014	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE AIRWAVES AND MICROBLOGS: A STATISTICAL ANALYSIS OF AL-SHABAAB'S PROPAGANDA EFFECTIVENESS			5. FUNDING NUMBERS	
6. AUTHOR(S) Timothy A. Sikorski				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number ____ N/A ____.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) Al-Shabaab poses a persistent threat in the Horn of Africa, able to mount spectacular transnational attacks such as the siege on the Westgate Mall in Nairobi, Kenya in 2013 and twin suicide bombings in Kampala, Uganda in 2010. Particularly worrying for Western governments is the group's merger with al-Qaeda, combined with its ability to recruit fighters from Europe and North America. Al-Shabaab's extensive use of propaganda to gain recruits and external support has been well documented. Most studies of al-Shabaab's propaganda activities are centered on techniques, mediums and themes, with little focus on effectiveness. This study seeks to determine the effectiveness of al-Shabaab's propaganda by quantitatively evaluating the relationship between propaganda and behaviors linked to the strategic effects sought by al-Shabaab. Statistical analysis is used to determine the significant relationships between al-Shabaab propaganda, target audience behaviors, and desired effects. Results demonstrate that al-Shabaab's propaganda is statistically ineffective at achieving the desired effect. This research recommends a strategy to counter al-Shabaab propaganda focused on disruption of al-Shabaab's message dissemination, providing a credible alternative to the group's propaganda, and highlighting discrepancies between al-Shabaab's propaganda and the group's actions.				
14. SUBJECT TERMS Al-Shabaab, Al-Qaeda, Somalia, Transitional Federal Government, African Union Mission to Somalia, Westgate, Kismayo, propaganda, jihad, ideology, data analysis, statistical analysis, counterterrorism, counter violent extremist messaging, effectiveness, information operations, social media, Radio Andalus, Twitter			15. NUMBER OF PAGES 91	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

AIRWAVES AND MICROBLOGS: A STATISTICAL ANALYSIS OF AL-SHABAAB'S PROPAGANDA EFFECTIVENESS

Timothy A. Sikorski
Major, United States Army
B.S., University of Arizona, 2001
M.S., Webster University, 2006

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN DEFENSE ANALYSIS

from the

**NAVAL POSTGRADUATE SCHOOL
December 2014**

Author: Timothy A. Sikorski

Approved by: Dr. Camber Warren
Thesis Advisor

Dr. Glenn E. Robinson
Second Reader

Dr. John Arquilla
Chair, Department of Defense Analysis

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

Al-Shabaab poses a persistent threat in the Horn of Africa, able to mount spectacular transnational attacks such as the siege on the Westgate Mall in Nairobi, Kenya, in 2013 and twin suicide bombings in Kampala, Uganda, in 2010. Particularly worrying for Western governments is the group's merger with al-Qaeda, combined with its ability to recruit fighters from Europe and North America. Al-Shabaab's extensive use of propaganda to gain recruits and external support has been well documented. Most studies of al-Shabaab's propaganda activities are centered on techniques, mediums and themes, with little focus on effectiveness. This study seeks to determine the effectiveness of al-Shabaab's propaganda by quantitatively evaluating the relationship between propaganda and behaviors linked to the strategic effects sought by al-Shabaab. Statistical analysis is used to determine the significant relationships between al-Shabaab propaganda, target audience behaviors, and desired effects. Results demonstrate that al-Shabaab's propaganda is statistically ineffective at achieving the desired effect. This research recommends a strategy to counter al-Shabaab propaganda focused on disruption of al-Shabaab's message dissemination, providing a credible alternative to the group's propaganda, and highlighting discrepancies between al-Shabaab's propaganda and the group's actions.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION AND RESEARCH QUESTION	1
II.	LITERATURE REVIEW	5
III.	APPROACH.....	15
A.	CONTENT ANALYSIS	16
B.	PROPAGANDA THEMES.....	17
1.	Competing Voices.....	17
2.	Narrative.....	17
3.	Group Identity and Cohesion	18
4.	Operational Capacity.....	18
5.	Strategic Authority	19
6.	Relevance	19
7.	Religious Authority.....	20
C.	OBSERVABLE BEHAVIORS	22
1.	Violence.....	22
2.	Arrests and Indictments	22
3.	Protests and Demonstrations	23
4.	Critical Media.....	23
IV.	RESULTS	25
A.	PROPAGANDA THEMES.....	25
B.	PROPAGANDA SOURCES	31
C.	THEMES BY SOURCES	36
D.	BEHAVIORAL ANALYSIS.....	38
E.	DATA ANALYSIS.....	41
F.	DISCUSSION	53
V.	CONCLUSION	59
A.	OPPORTUNITIES FOR FURTHER ANALYSIS	59
B.	RECOMMENDATIONS.....	61
	LIST OF REFERENCES.....	67
	INITIAL DISTRIBUTION LIST	73

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

Figure 1.	Al-Shabaab Propaganda Theme Frequency	25
Figure 2.	Mobilize for Jihad Theme Frequency	26
Figure 3.	Degrade Support Theme Frequency	27
Figure 4.	Low Density Theme Frequency	31
Figure 5.	Propaganda Source Comparison	32
Figure 6.	Al-Shabaab Twitter Followers	35
Figure 7.	Theme Prevalence by Source	36
Figure 8.	Strategic Authority Theme Comparison	37
Figure 9.	Competing Voices Theme Comparison	38
Figure 10.	Behavior Data	40
Figure 11.	Terms Used to Reference Westgate Attackers.....	57

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Coding Criteria for al-Shabaab Themes and Effects	21
Table 2.	Observed behaviors and effects relationship	24
Table 3.	Degrade Support Effectiveness.....	42
Table 4.	Degrade Support Effectiveness by Theme.....	43
Table 5.	Mobilize for Jihad Effectiveness	44
Table 6.	Mobilize for Jihad Effectiveness by Theme	45
Table 7.	Twitter Effects on Degrade Support	47
Table 8.	Radio Effects on Degrade Support	49
Table 9.	Twitter Effects on Mobilize for Jihad.....	51
Table 10.	Radio Effects on Mobilize for Jihad	53

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

ACLED	Armed Conflict Location and Event Data Project
AMISOM	African Union Mission to Somalia
AQAP	Al-Qaeda in the Arabian Peninsula
AU	African Union
CTC	Counter Terrorism Center
HSM	Harakat al-Shabaab al-Mujahedeen (al-Shabaab)
ICU	Islamic Courts Union
ISCR	International Centre for the Study of Radicalisation
KDF	Kenyan Defense Forces
OSAFA	Office for Supervising the Affairs of Foreign Agencies
TFG	Transitional Federal Government
UPDF	Uganda People's Defense Force

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

I would like to thank my wife and our two beautiful daughters for their support and enduring patience during my studies and throughout my career. Their support and love have made me a better man, officer, and student.

I am also appreciative of my leadership in the 1st Information Operations Command for the opportunity to learn and practice my craft through the diverse opportunities that opened my intellectual horizons. A special thanks also goes to the Information Operations Proponent for the opportunity to study at this institution.

Dr. Camber Warren and Dr. Glenn Robinson are due particular acknowledgment for their guidance through the thesis process. This study would have never been completed without Dr. Warren's expertise and patience, and for that I am eternally grateful.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION AND RESEARCH QUESTION

*I say to you: that we are in a battle, and more than half of this battle is in the battlefield of the media. And that we are in a media battle in a race for the hearts and minds of our Umma.*¹

—Ayman al Zawahiri,
leader of al-Qaeda

A typically peaceful Saturday afternoon in an upscale neighborhood in Nairobi was shattered with grenades and gunfire on September 21–24, 2013, as the Somali terrorist group al-Shabaab launched a four day siege on the Westgate Mall. The aftermath of the attack resulted in extensive property damage, 72 people dead, and the embarrassment of the Kenyan government for its uncoordinated response to the assault.² As the world watched the siege unfold, al-Shabaab capitalized on its moment in the spotlight to propagate its narrative. Using microblogging sites such as Twitter and releasing audio statements from the group’s reclusive leader Ahmed Godane, al-Shabaab gained a global audience for its message of defending Muslims, avenging the plight of Somalis injured in Kenya’s military operations, and demanding a Kenyan withdrawal from Somalia.³

For al-Shabaab, the attention gained from the media circus surrounding the Westgate Mall attack provided a much needed publicity boost following two years of internal divisions and military setbacks. With the loss of 35 to 50 million dollars of annual revenue generated by the Bakara Market in Mogadishu and the port of Kismayo that were reclaimed by African Union forces in 2011 and 2012, al-Shabaab seemed to be

¹ Letter from Ayman al-Zawahiri to Abu Musab al-Zarqawi (July 9, 2005): quoted in *Seth G. Jones, The Terrorist Threat From Al-Shabaab* (Santa Monica, CA: RAND, 2013), 6.

² Nicholas Soi and Robyn Dixon, “Kenyan Siege Ends; Toll at 72,” *Los Angeles Times* (September 25, 2013), <http://articles.latimes.com/2013/sep/25/world/la-fg-kenya-mall-20130925>.

³ Christopher Anzalone, “The Nairobi Attack and Al Shabab’s Media Strategy,” *CTC Sentinel* 6, no. 10 (October 2013).

on the verge of defeat.⁴ Compounding the territorial losses, the long-defunct Transitional Federal Government (TFG) of Somalia adopted a constitution, elected a new president, and supplanted al-Shabaab governance in southern Somalia in 2012. The new Somali government gained much needed international credibility through formal recognition by the United States in January 2013, which is the first time in over 20 years that a Somali government was recognized as legitimate by the United States.⁵ Infighting and defections among senior al-Shabaab leaders and foreign fighters further compounded the group's troubles.⁶

Despite these setbacks, al-Shabaab remains a persistent threat in the Horn of Africa, able to mount spectacular transnational attacks such as the siege on the Westgate Mall and twin suicide bombings in Kampala, Uganda in 2010. Particularly worrying for Western governments is the group's merger with al-Qaeda, combined with its ability to recruit fighters from Europe and North America.⁷ Al-Shabaab's extensive use of propaganda to gain recruits and external support has been well documented, particularly with the group's ability to attract fighters from Western countries. Most of the focus on al-Shabaab's propaganda activities is centered on techniques and mediums such as social media, as well as the particular themes and messages being propagated.⁸ The linkage between al-Shabaab's propaganda and organizational goals needs a closer evaluation to determine how effective propaganda is in advancing al-Shabaab's strategic objectives in

⁴ Muhyadin Ahmed Roble, "Kenya: Civil War Breaks Out Within Al-Shabaab," *Global Information Network* (October 22, 2013), ProQuest, <http://search.proquest.com/docview/1443845857?accountid=12702>.

⁵ Jane Morse, "Somalia's Fledgling Democracy Wins U.S. Recognition," Department of State International Information Program, 17 January 2013, <http://iipdigital.usembassy.gov>.

⁶ Roble, "Civil War Breaks Out Within Al-Shabaab."

⁷ Matthew J. Thomas, "Exposing and Exploiting Weaknesses in the Merger of Al-Qaeda and Al-Shabaab," *Small Wars & Insurgencies*, 24:3, 417, Taylor & Francis, DOI: 10.1080/09592318.2013.802611.

⁸ Alexander Melegrou-Hitchens, Shiraz Maher, James Sheehan, "Lights, Camera, Jihad: Al-Shabaab's Western Media Strategy," *The international Centre for the Study of Radicalisation and Political Violence*, 9, 2012, www.icsr.info.

Somalia. This thesis will seek to determine the effectiveness of al-Shabaab's propaganda at influencing the behavior of target audiences in East Africa.⁹

⁹ The definition of propaganda used for this thesis is found in Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (November 2010): "Any form of adversary communication, especially of a *biased* or misleading nature, designed to influence opinions, emotions, attitudes, or behavior of any group in order to benefit the sponsor, either directly or indirectly." (emphasis added)

THIS PAGE INTENTIONALLY LEFT BLANK

II. LITERATURE REVIEW

Somalia is a country that has a tragic history marked by extreme drought, famine, violence, and lack of effective governance since the fall of the Siad Barre regime in 1991. The combination of these factors led to Somalia consistently topping the Fund for Peace Failed State Index as the epitome of a failed state.¹⁰ Attacks such as the 1998 bombings of U.S. embassies in Kenya and Tanzania, the 2002 hotel bombing and attempted shoot down of an Israeli airliner in Mombasa, the 2010 coordinated suicide bombings in Uganda, persistent piracy in the Indian Ocean and Gulf of Aden, and the 2013 siege on the Westgate Mall in Nairobi are examples of the regional instability emanating from Somalia that challenge U.S. interests.¹¹ As with many violent organizations, al-Shabaab has made extensive use of the information environment as part of its strategy to further its objectives of establishing an Islamic state in Somalia. Studies conducted by organizations such as the International Centre for the Study of Radicalisation and Political Violence (ISCR) and West Point's Counter Terrorism Center (CTC) primarily focus on al-Shabaab's information strategy as it relates to the conflict in Somalia, al-Shabaab's relationship with al-Qaeda, and the group's ability to attract foreign recruits. Little consideration has been given to the effectiveness of the group's information strategy, with no quantitative analysis comparing al-Shabaab propaganda with attainment of the group's strategic objectives over time. In simpler terms – the question of whether or not the propaganda output is effective has not been sufficiently asked or answered in previous studies.

Determining the effectiveness of terrorism to achieve policy goals is at best a tenuous undertaking with no easily drawn conclusions, particularly when trying to determine to what extent propaganda advances the goals of a terrorist group. The

¹⁰ Felipe Umaña, "The Recovery of Somalia: Check Back With Us Again Next Year," *Fund for Peace Failed State Index*, June 24 2013, www.library.fundforpeace.org/fsi13-somalia.

¹¹ *LRA, Boko Haram, al-Shabaab, AQIM and Other Sources of Instability in Africa*, 112th Cong. 11, (2012) (Testimony of Don Yamamoto, Principal Deputy Assistant Secretary of State, Bureau of African Affairs).

available literature dealing with terrorism effectiveness tends to primarily focus on the actions of a terror group, the counterterrorism response from the authorities, or the interaction of the two or more actors in a struggle for control over a population or territory. Bueno de Mesquita and Dickson study the effectiveness of terrorism as a struggle between the government and a terror group for popular support by reviewing the severity of a government's response to terrorism in proportion to the terrorist's actions and the population's attitudes about government motivation.¹² By developing a game theory model, Bueno de Mesquita and Dickson examine the strategic interactions between three actors – terrorist, government, and the population, with the terrorist and the government competing for support of the population. Population support is measured as mobilization towards or away from the extremist cause.¹³ The model developed indicates that a terrorist group can increase its support base through provoking government counterterrorism actions that impose a high cost such as physical and economic damage to the population, regardless of the government's intent. If a government tries to conduct discriminate counterterrorism operations, yet is perceived by the population to be operating indiscriminately resulting in high damage, support to the terror group increases.¹⁴ This would indicate that while actions and intrinsic motivations for the government are important towards increasing security and degrading support for a terrorist group, the public perceptions of counterterrorism operations are a determining factor in gaining support of a population.¹⁵

Similar to Bueno de Mesquita's assertion that the effectiveness of counterterrorism is based on the target population's perception of the nature of the government, Max Abrahms argues that terrorism is not effective due to terrorists attacking civilian targets. This tactic leads to a targeted population making inferences

12 Ethan Bueno de Mesquita and Eric S. Dickson, "The Propaganda of the Deed: Terrorism, Counterterrorism, and Mobilization," *American Journal of Political Science*, 51 no. 2, (April, 2007), 373 <http://www.jstor.org/stable/4620071>.

13 Mesquita, "The Propaganda of the Deed," 373.

14 *Ibid.*, 374.

15 *Ibid.*, 377.

regarding terrorist intentions following an attack.¹⁶ Abrahms claims that terrorist groups which predominately attack civilian targets versus military targets are far less likely to achieve the group's stated goals. Success was measured against whether a terrorist organization achieved its publically stated strategic goals, using target selection and the type of goal (maximalist versus limited) as the independent variables of the study. When viewing target selection, Abrahms found that, out of the forty-two strategic objectives examined over twenty-eight groups (some groups had multiple policy objectives), there were only three cases of a terrorist group successfully achieving a strategic objective – yielding a seven percent success rate. The dismal seven-percent success rate was determined even with Abrahms using generous metrics for success, admittedly giving credit for success even if a terrorist group only partially accomplished its goals, or if other factors such as a peace process contributed to the causality of the strategic objective being reached.¹⁷

The type of strategic objectives terrorist groups strive for is also an important factor in determining the success of a terrorist group. Abrahms classifies objectives as maximalist or limited, with limited objectives being focused on demands over territory or resources; whereas a maximalist demand involves changing a society's beliefs, values, or ideologies.¹⁸ Examples of limited objectives include disputes over territory or trying to expel a foreign occupying force, such as Hezbollah expelling the peacekeeping forces from Beirut in the early 1980s. Maximalist objectives include trying to “transform the political system (usually to either Marxist or Islamist), or annihilate a society because of its values.”¹⁹ Not surprisingly, Abrahms finds that terrorists are more likely to achieve success with limited objectives than with maximalist objectives that pose an existential threat to the government or society.

¹⁶ Max Abrahms, “Why Terrorism Does Not Work,” *International Security*, 31, no. 2 (Autumn 2006) pg. 56, <http://www.jstor.org/stable/4137516>.

¹⁷ Ibid., 51.

¹⁸ Ibid., 53.

¹⁹ Ibid.

Abrahms is careful to note that objective type is not a great predictor of success for a terrorist group, claiming that target type is a better predictor when combined with objective type. Terrorism is a tactic used by groups to coerce target audiences to acquiesce to the group's demands. The main assertion by Abrahms is that when terrorist groups attack civilian targets, the "...groups fail to coerce because they miscommunicate their policy objectives."²⁰ Even with limited objectives, the targeted society infers that the terrorist group has maximalist objectives, which in turn decreases the probability of the society acquiescing to limited demands.²¹ To explain this, Abrahms refers to correspondent inference theory, which is the cognitive process by which an observer infers the motives of an actor."²² With terrorism, the victimized society infers a maximalist objective on the part of the terrorist group through the carnage, fear, and damage inflicted by an attack on civilians. In essence, the "objectives of the actor are presumed to be encoded in the outcome of the behavior" through the "attribute-effect linkage."²³ Through case studies and a review of terror group activities and outcomes, Abrahms makes a strong case that the effectiveness of terrorism is limited due to the message of a terror group being lost in its actions.

Countering Abrahms are Kydd and Walter, who make the claim that terrorism is an effective tactic to force governments and societies to make concessions favorable to terror groups. Kydd and Walter make their claim based on terrorist groups not being strong enough to directly confront the state, and thus resorting to "costly signaling" to demonstrate the group's commitment and ability to inflict costs on the targeted society.²⁴ In essence, costly-signaling is a means for an organization, be it terrorist or government, to indicate to its adversary that the organization is serious about achieving its goals

²⁰ Ibid., 56.

²¹ Ibid.

²² Ibid., 58.

²³ Ibid.

²⁴ Andrew H. Kydd, Barbara F. Walter, "The Strategies of Terrorism," *International Security*, 31 no. 1 (Summer 2006), 50.

through “taking actions so costly that bluffers and liars are unwilling to take them.”²⁵ Through costly signaling, a terror organization can draw attention to its cause, demonstrate capability, and show resolve towards accomplishing its goal, even at a great price to both the group and the targeted population.

Costly signaling derives from a group’s uncertainty regarding its opponent that leads to conflict, such as a security dilemma.²⁶ Uncertainty manifests itself through conflicts between belligerents’ power, resolve, and trustworthiness. This is combined with the need of a terrorist group to influence an adversarial government and the target population while influencing the group’s own followers to conform to ideology and provide vital resources.²⁷ Combining uncertainty with target audiences yields five influence strategies that a terrorist group could apply through costly signaling to achieve its objectives. The five strategies involve attrition, spoiling, intimidation, outbidding, and provocation.²⁸ Attrition and spoiling strategies focus on influencing the adversary through making the counterterrorism policy too costly to maintain, or by sabotaging a peace process to further long term goals. Terrorists use intimidation, outbidding and provocation to influence their friendly population to increase support through threatened violence, showing greater zeal for the cause than other rival groups, or by provoking an overreaction by the government to disenfranchise a larger segment of the population akin to Bueno de Mesquita and Dickson’s model.

Kydd and Walter argue that the aforementioned information strategies are instrumental in terrorist groups achieving their ultimate goals. The goals of terrorism include: regime change, territorial change, policy change, social control, and status quo maintenance.²⁹ Like both Bueno de Mesquita and Abrahms, Kydd and Walter conclude that information and perceptions are the key determinants of terrorists’ success or failure.

²⁵ Kydd, “The Strategies of Terrorism,” 58.

²⁶ Ibid., 57

²⁷ Ibid., 58.

²⁸ Ibid.

²⁹ Ibid., 52.

Unlike Abrahms, however, Kydd and Walter make their claim that terrorism works “because it causes governments and individuals to respond in ways that aid the terrorists’ cause.”³⁰ However, provoking a response is not the same as successfully accomplishing one of the five strategic goals previously listed by Kydd and Walter. A group can successfully use the attrition strategy to cause a change in a country’s counterterrorism strategy to one that is less costly, though the group may not be any closer to achieving its desired end state of regime change or social control.

When studying al-Shabaab, available literature on the group tends to focus specifically on the motives of the group, its relationship with al-Qaeda, or on al-Shabaab’s use of various media platforms such as Internet forums and social media to advance its narrative. There is general agreement that al-Shabaab has its origins in the Islamic Courts Union (ICU), which formed as a pseudo-government providing some semblance of law and order through strict enforcement of *sharia* law in vast ungoverned areas of Somalia.³¹ When the ICU threatened the UN-sponsored Transitional Federal Government (TFG) in Baidoa in 2006 Ethiopia intervened, defeated the ICU, and reestablished the TFG in Mogadishu.³² As moderate factions of the ICU sought negotiations to end the conflict with Ethiopia, militant leaders with connections to al-Qaeda rejected any concessions to non-Muslim countries and inflamed Somali nationalist sentiment to attract recruits for an insurgency against Somalia’s long-time nemesis Ethiopia.³³

The guerrilla war with Ethiopia solidified al-Shabaab’s global jihadist ideology, which diverged from the ICU’s more nationalist goals. The conflict with Ethiopia was framed as part of a global struggle in line with al-Qaeda’s transnational jihad, with the Ethiopians and TFG acting as puppets of the Western “far enemy” intent on attacking

³⁰ Ibid., 50.

³¹ *LRA, Boko Haram, al-Shabaab, AQIM and other Sources of Instability in Africa*, 112th Cong. 11, (2012) (Testimony of Donald Yamamoto, Principal Deputy Assistant Secretary of State, Bureau of African Affairs).

³² Ibid.

³³ Ibid.

Islam.³⁴ Melegrou-Hitchens provides context by stating “Somali-Ethiopian relations are as tense and incorrigible as those one might expect of India and Pakistan,” with the added hostility towards the U.S. and Ethiopia compounding nationalist sentiments.³⁵ Complicating matters were the U.S., African Union (AU), and UN backing of the TFG, lending credence to a Christian conspiracy against Islamic Somalia that al-Shabaab propagated.³⁶ Vidino assessed Somalis perceived the U.S. backing of Ethiopia “...as a desire to avenge the 1993 “Black Hawk Down” incident, or as part of a larger plan to attack Muslim countries.”³⁷

This narrative is attributed to al-Shabaab having an “unprecedented number of Western recruits, many of whom are U.S. and European passport holders.”³⁸ Melegrou-Hitchens pays particular attention to al-Shabaab propaganda targeting the West, focusing on the narrative and delivery of the message. The group has made efforts to use Western personalities with bona fide global jihadist credentials to attract foreign recruits. Non-Somali Westerners in al-Shabaab such as Alabama native Omar Hamammi provided commentary regarding the duty of Muslims to fight the West, and encouraged travel to areas of conflict to join the jihad. Hamammi characterizes the conflict with the West as a zero-sum game, in which “the West is locked in an existential conflict with Islam and cannot coexist with it,” essentially encouraging Muslims to “pick a side.”³⁹

Migrating to establish an Islamic state is a concept from the earliest days of Islam known as *hijrah*. Melegrou-Hitchens links the concept of *hijrah* with prominent al-Qaeda personalities such as Bin Laden and Anwar Awlaki, who both preached travel to Muslim lands for jihad as a principal duty of believers, and set the example themselves by

³⁴ Lorenzo Vidino, Raffaello Pantucci, and Evan Kohlmann, “Bringing Global Jihad to the Horn of Africa: al Shabaab, Western Fighters, and the Sacralization of the Somali Conflict,” *African Security*, November 2010, 3:4, Taylor & Francis, doi: 10.1080/19392206.2010.533071.

³⁵ Melegrou-Hitchens, “Lights, Camera, Jihad: Al-Shabaab’s Western Media Strategy,” 11.

³⁶ Ibid.

³⁷ Vidino, “Bringing Global Jihad to the Horn of Africa: al Shabaab,” 220.

³⁸ Thomas, “Exposing and Exploiting Weaknesses in the Merger of Al-Qaeda and Al-Shabaab,” 417.

³⁹ Melegrou-Hitchens, “Lights, Camera, Jihad: Al-Shabaab’s Western Media Strategy,” 14.

forsaking comfortable lives for hardships associated with jihad.⁴⁰ Hamammi echoes Awlaki and Bin Laden, urging the American Muslims to participate in *hijrah*, postulating that remaining in the U.S. is a mortal sin due to America's secular society and open hostility towards Islam.⁴¹

Al-Shabaab's focus on *hijrah* and transnational jihad gives the outward appearance of being in lock step with al-Qaeda. Vidino highlights the relationship between the groups as a matter of shared ideology, solidifying the religiosity of al-Shabaab's ideology following the split from the ICU and departure of Ethiopian troops.⁴² Vidino is careful to not confuse endorsement and cooperation for an outright merger of the two groups. Instead, the focus is on endorsements Bin Laden and other al-Qaeda figures made towards al-Shabaab, including videos entitled "Fight On, Champions of Somalia," and "No Peace Without Islam" that specifically endorse al-Shabaab and list Somalia as a front in the global jihad.⁴³ Al-Shabaab and al-Qaeda eventually merged on 9 February, 2012, a relationship the West will have to contend with to determine its significance. Vidino recognized the potential effects of placing a local conflict into an international context – local groups will benefit from additional resources, while al-Qaeda's narrative of being a global movement is further validated.

Thomas provides an example of cooperation between franchises by reviewing the relationship between al-Shabaab and al-Qaeda in the Arabian Peninsula (AQAP), where Somalis account for approximately 50 percent of AQAP's foreign fighter force.⁴⁴ Despite the potential for increased cooperation following the merger, theories exist that the merger was among two groups on the verge of defeat.⁴⁵ Both groups sought to capitalize on increased exposure in an attempt to remain relevant and keep the global

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Vidino, "Bringing Global Jihad to the Horn of Africa: al Shabaab, Western Fighters, and the Sacralization of the Somali Conflict."

⁴³ Ibid

⁴⁴ Thomas, "Exposing and Exploiting Weaknesses in the Merger of Al-Qaeda and Al-Shabaab," 421.

⁴⁵ Ibid.

jihad ideology alive.⁴⁶ In the months leading up to the merger, al-Shabaab had suffered its most serious setbacks to date, withdrawing from Mogadishu while simultaneously facing Kenyan forces advancing from the South and Ethiopian forces advancing from the east. Al Qaeda was still recovering from the deaths of Bin Laden and Abu Yahya al-Libi while facing additional pressure in Afghanistan and Pakistan, seemingly on the verge of defeat.⁴⁷

With the preponderance of literature focused on the ideology of al-Shabaab and its connection to al-Qaeda in relation to attracting foreign fighters and conducting transnational jihad, there is little analysis conducted regarding the effectiveness of al-Shabaab's messaging campaign in relation to its objectives. Qualitative analysis of al-Shabaab messaging focuses on the group's violence, recruitment of fighters from Western nations (mostly from the large Somali diaspora), and al-Shabaab's activity on the Internet with high-quality video productions and prolific Twitter activity.⁴⁸ Applying previously mentioned frameworks to judge the effectiveness of propaganda would also be incomplete. Abrahms' theory would focus on al-Shabaab progress towards its strategic goals in light of target selection for attacks. Kydd and Walter would analyze al-Shabaab actions as a form of costly signaling through attrition, intimidation, and provocation to affect regime change and social control – again focusing on kinetic actions as the primary means of signaling resolve and intentions to the target.⁴⁹ Bueno de Mesquita and Dickson's game-theory approach wouldn't focus on al-Shabaab' targeting per se, but instead model the relationship of the action-reaction cycle between al-Shabaab and government authorities to the level of radicalization and mobilization of the population in support of al-Shabaab. What is further missing from Bueno de Mesquita and Dickson is a concrete description of observable behaviors within the target audience that would indicate an increase or decrease in radicalized behavior and mobilization from populations in support of terrorist groups.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Melegrou-Hitchens, "Lights, Camera, Jihad: Al-Shabaab's Western Media Strategy" pg. 30.

⁴⁹ Kydd, "The Strategies of Terrorism," 51–52.

A serious quantitative effort to demonstrate the effectiveness, or lack thereof, of al-Shabaab propaganda is lacking. The closest anyone has come in this regard is Melegrou-Hitchens in his study of al-Shabaab video and Twitter usage targeting Westerners. Even this study primarily focuses on the content and frequency of various themes to establish al-Shabaab's narrative as "a united and effective fighting force that is promoting God's will," with the Somali conflict portrayed as an assault on Islam by the TFG and Western powers.⁵⁰ The analysis only superficially evaluates behaviors through examining known foreign fighters and suicide bombings, but not studying trends in behavior exhibited in targeted populations at large. By quantitatively analyzing al-Shabaab's propaganda output with the group's strategic objectives and observable behavioral changes in target populations, the gap between Bueno de Mesquita and Dickson, Kydd and Walter, and Abrahms' theories of information's role in achieving strategic objectives can be partially filled.

⁵⁰ Ibid., 41.

III. APPROACH

This study used a quantitative approach to determine the effectiveness of al-Shabaab's propaganda towards achieving strategic objectives. For the purposes of this analysis, the Joint Staff definition of propaganda is used, with particular emphasis placed on the use of propaganda as a means to influence the behavior of the target audience.⁵¹ Through influencing target audiences' beliefs and perceptions, effective propaganda should result in an observable behavior that can then be quantified if the propaganda were to achieve its intended purpose.

Al-Shabaab radio broadcasts from its Radio Andalus program along with the group's Twitter activity from December 2011 through December 2013 is evaluated for effectiveness. These dates were chosen to correspond with the creation of al-Shabaab's Twitter account through the 90-day aftermath of the Westgate Mall attack. This timeframe also coincides with a dynamic operational period for al-Shabaab, during which the group was prolific in propaganda output and al-Shabaab's while its adversaries were active in countering al-Shabaab militarily and politically. The focus on social media and radio transcripts allows for a higher number of observations to conduct statistical analysis with easily quantifiable coding as the radio transcripts and tweets are treated as discrete events. Each al-Shabaab product will be coded by date, source, theme, and desired effect. This study will expand on Melegrou-Hitchens' work on al-Shabaab propaganda, which only quantitatively covered twitter activity through September 20, 2012.⁵²

⁵¹ Propaganda is defined in Joint Publication 1-02 (November 2010) as "Any form of adversary communication, especially of a biased or misleading nature, designed to influence the opinions, emotions, attitudes, or behavior of any group to benefit the sponsor, either directly or indirectly." The cognitive dimension of the information environment is identified in Joint Publication 3-13, *Information Operations*, as the most important dimension to influence as that is where target audiences and decision makers process information and make decisions that are beneficial or detrimental to the desired effects.

⁵² Melegrou-Hitchens, "Lights, Camera, Jihad: Al-Shabaab's Western Media Strategy," 32.

A. CONTENT ANALYSIS

Each propaganda product will be coded into one of seven themes developed by James Forest's study of al-Qaeda propaganda and adopted by Melegrou-Hitchens to evaluate al-Shabaab's media strategy.⁵³ The themes used to describe al-Shabaab propaganda are: religious authority, strategic authority, group integrity and cohesion, competing voices, narrative, operational capacity, and relevance.⁵⁴ These themes each correspond with one of two main effects sought by al-Shabaab—mobilize for jihad, and undermining support for Western and Somali governments and the UN-sponsored African Union Mission in Somalia (AMISOM)—referenced as “degrade support” throughout the remainder of this study.⁵⁵

Observable behaviors related to al-Shabaab's propaganda are determined for each desired effect using data from the Armed Conflict Location and Event Data Project (ACLED) and the Open Source Center. This study will focus on al-Shabaab inspired attacks, anti-government protests, suicide bombings, arrests of suspected al-Shabaab members outside of Somalia, and media critical of AMISOM as observable behaviors indicating propaganda effectiveness. Desired effects and observed behavior are evaluated over time to determine if behaviors correspond to al-Shabaab's dissemination of propaganda. Target audience behavior will be the dependent variable observed against the independent variables of al-Shabaab propaganda themes with the corresponding desired effects. Since count data is used to code the data, a quasi-Poisson regression will be used to conduct statistical analysis and determine if there is a statistically significant relationship between propaganda and behavior, with significance being judged at the 95 percent confidence level ($p < 0.05$).

⁵³ Ibid., 31.

⁵⁴ Ibid.

⁵⁵ “Mobilize for jihad” refers to active participation in the conflict through either traveling to Somalia to fight (*hijrah*) or conducting attacks against Western, AMISOM, or Somali government target outside of Somalia. “Degrade Support” refers to more passive participation in the conflict through diminishing active support to the Somali government, AMISOM, and Western efforts, or tacit support of al-Shabaab effort.

B. PROPAGANDA THEMES

1. Competing Voices

Competing voices is focused towards discrediting Western and regional media outlets and describing any media outlet that is critical of al-Shabaab as corrupt or lying. Propaganda fitting this theme could take the form of general criticism of Western media corruption, particularly in accusing media outlets of participating in a “war on Islam.” Al-Shabaab also responds to specific events, media reports, and personalities to discredit or mock their reporting on al-Shabaab. Al-Shabaab also attempts to perpetrate itself as a credible news source, particularly during spectacular events such as the Westgate attack, with al-Shabaab’s Twitter account posting “Journalist should contact HSM Press Office for further verification. All journalists in HSM (Harakat al-Shabaab al-Mujahdeen) Mailing list have been notified #Westgate.”⁵⁶

2. Narrative

The Narrative theme focuses on discrediting Western influence, in addition to discrediting AMISOM and the Somali government. Narrative is differentiated from competing voices by not focusing specifically on adversary media outlets or personalities, but on the governments, people, and organizations of Western and regional adversaries. A key component of the narrative theme involves portraying the actions of Western nations, the Somali government, and AMISOM as being part of a larger war on Islam, with the governments in the Horn of Africa beholden to Western interest. Highlighting adversary failures is a technique employed by al-Shabaab as part of its narrative to discredit adversaries. Highlighting failures involves describing areas under control of AMISOM or the Somali government as being unstable and insecure, even if the insecurity is perpetrated by al-Shabaab itself. Battlefield failures of Somali, AMISOM, or Western forces, as well as failures in governance are used to perpetuate the narrative theme of al-Shabaab. Governments are not alone in drawing criticism from al-Shabaab for

⁵⁶ Open Source Center, “Somalia: *Twitter* Suspends Fifth Al-Shabaab Account for Posting Details of Nairobi Mall Siege,” September 23 2013.

involvement in Somalia, with non-Islamic relief organizations also being criticized for either spreading infidel ideology or distributing tainted goods as part of the relief effort.

3. Group Identity and Cohesion

Group integrity and cohesion is focused on promoting al-Shabaab as a unified organization both internally and externally with Somali culture, Muslims, and fellow jihadist movements. Promoting internal integrity involves demonstrating al-Shabaab cohesiveness and refuting allegations of schisms within the group. The primary focus of this theme revolves around showing unity within Somali society, by demonstrating support garnered from traditional clan leadership, thus achieving a level of legitimacy within Somalia and its vast diaspora. Also important for potential foreign supporters is al-Shabaab's ability to demonstrate a level of solidarity with other Muslims, particularly with other more recognizable jihadi movements. Expressions of support with Egyptian demonstrators in Tahrir Square are an example of demonstrating solidarity with other Muslims with the tweet "HSM welcomes the demonstration held by the #Egyptian Muslims calling for Islamic Sharia to be implemented in that Muslim land."⁵⁷

4. Operational Capacity

Operational capacity seeks to instill "confidence and competence" in al-Shabaab by demonstrating the group is comprised of serious warriors and that al-Shabaab is capable of inflicting damage to its enemies.⁵⁸ Messages in this theme describe attacks by al-Shabaab, boast about inflicting casualties against AMISOM, and describe effects of the damage on the group's enemies. These messages often take the tone of press releases or news reporting from field correspondents. Another key feature of this theme is the articulations of threats towards adversaries. Through continually demonstrating capacity with through continual reporting of both asymmetric and symmetric attacks in a variety

⁵⁷ Open Source Center, "Highlights of al-Shabaab's Twitter Account: 9–14 November 2012," 15 November 2012.

⁵⁸ Melegrou-Hitchens, "Lights, Camera, Jihad: Al-Shabaab's Western Media Strategy," 36.

of circumstances, threats made by al-Shabaab carry more credibility despite the inherent truthfulness of the threat.⁵⁹

5. Strategic Authority

The strategic authority theme is used by al-Shabaab to provide context to its actions, demonstrate itself as a vanguard for establishing an Islamic state in Somalia, and describe the strategic vision of the group. Messages that justify al-Shabaab's actions fall into this category, such as the group justifying posting pictures of a dead French commando to Twitter following the failed rescue attempt of Denis Alex in January 2013.⁶⁰ Describing the vision of the group also fits into this category, such as explaining the end state of establishing *sharia* law in Somalia or stating conditions the Kenyan government must meet for the release of prisoners held by the group.

In portraying itself as a competent vanguard of jihad within Somalia, al-Shabaab is claiming that the group is the most capable of combating Western influence in the Somalia and the Horn of Africa, in effect declaring other groups as inferior and in direct competition with al-Shabaab. Acting as the vanguard, al-Shabaab claims the authority to mobilize Muslims from not only the region, but from the global audience for the jihad against Western influence in the Horn of Africa. This is differentiated from the group identity and cohesion theme through al-Shabaab claiming a leadership role amongst Muslims and calling for Muslims to mobilize in support of jihad.

6. Relevance

The relevance theme is used to demonstrate durability and governance, in addition to claiming that Western concern over al-Shabaab actions prove the group is a relevant threat to Western influence and Western supported governments. Messages in this category reflect the need of al-Shabaab to not only demonstrate its military capacity and solidarity with Muslims, but also its ability to be “meaningful in the minds of its

⁵⁹ Ibid., 37.

⁶⁰ Open Source Center, “Highlights of al-Shabaab’s Twitter Account: 10–17 January 2013,” 18 January 2013.

audience.”⁶¹ Most of messages in the relevance theme involve al-Shabaab demonstrating its ability to govern, particularly with providing services, collection and distribution of taxes, and instituting a legal system based on *sharia*.

7. Religious Authority

As a group promoting jihad to establish an Islamic state, al-Shabaab uses religious authority as a messaging theme. This theme seeks to highlight al-Shabaab as a religious organization that serves God’s will with holy warriors. Messages focused on directly linking the actions and philosophy with Islamic teachings fall into this category. Al-Shabaab also claims authority through promoting religious seminars that the group conducts in areas under its control. Praising the martyrdom of fighters, particularly suicide bombers, also falls under this theme. The coding criteria for each theme with the theme’s corresponding desired effect are shown in Table 1.

⁶¹ Melegrou-Hitchens, “Lights, Camera, Jihad: Al-Shabaab’s Western Media Strategy,” 35.

Table 1. Coding Criteria for al-Shabaab Themes and Effects

Theme	Criteria	Desired Effect(s)
Competing Voices	<ul style="list-style-type: none"> • Description of Western and regional media as corrupt • Accusing of Western and regional media of suppressing truth • Accusing Western and regional media of participating in “war on Islam” • Attempt to discredit Western or regional media • Portraying al-Shabaab media as credible voice 	Degrade Support
Narrative	<ul style="list-style-type: none"> • Critical of Western influence, foreign involvement in Somalia source of insecurity • Describing Somali government, AMISOM, and Western weakness and failures • Expressing illegitimacy of Somali and Regional government and Western institutions • AMISOM, Kenyan, and Ethiopian forces are an extension of Western influence • Areas controlled by foreign forces and the Somali government are not safe/unstable 	Degrade Support
Group Integrity & Cohesion	<ul style="list-style-type: none"> • Al-Shabaab is a unified organization • Al-Shabaab is aligned with Somali clans and traditional leadership • Responding to and refuting reports of dissention within al-Shabaab • Al-Shabaab is unified with other Islamic jihad movements 	Mobilize for Jihad
Operational Capacity	<ul style="list-style-type: none"> • Boasting about al-Shabaab attacks • Describing battlefield victories • Threatening local rivals, Somali Government, AMISOM forces, AMISOM troop contributing countries, Western interests 	Mobilize for Jihad
Strategic Authority	<ul style="list-style-type: none"> • Al-Shabaab is a competent vanguard of the Islamic movement in Somalia and the Horn of Africa; calls Muslims to action • Providing context to actions • Describing strategic vision of al-Shabaab 	Mobilize for Jihad
Relevance	<ul style="list-style-type: none"> • Demonstrating durability and governance • Western actions against al-Shabaab prove the group is considered a threat by Western powers 	Degrade Support
Religious Authority	<ul style="list-style-type: none"> • Al-Shabaab serves God’s will • Al-Shabaab members are holy warriors • Responses to religious questions • Praise martyrdom of fighters 	Mobilize for Jihad

C. OBSERVABLE BEHAVIORS

The themes listed above are designed to achieve the effects of mobilize for jihad and degrade support. For this study, both effects are analyzed through behaviors that can be observed to determine if the propaganda is achieving the desired effect. The observable behaviors for the mobilize for jihad effect are al-Shabaab inspired violence and arrests of al-Shabaab supporters outside of Somalia. To evaluate degrade support, protest and demonstrations were evaluated along with media products critical of AMISOM. The criteria for observable behaviors are listed below.

1. Violence

One observable behavior used to determine mobilization for jihad includes unattributed attacks against AMISOM forces, regional governments, or foreign entities within Somalia. Attacks attributed to al-Shabaab are not used since those attacks are self-generated and not indicative of influencing action from the target audience. For this study, data from Somalia and the AMISOM troop contributing countries of Kenya, Ethiopia, Djibouti, Burundi, Uganda, and Sierra Leone was evaluated. Attacks that were unattributed to a particular actor, but related to an event not associated with Islamic extremism were excluded from the data. Examples include land disputes, common crime, and intertribal violence common to the countries studied. Suicide attacks attributed to al-Shabaab are included as a behavior indicative of mobilizing for jihad. While suicide attacks are claimed by al-Shabaab, the process of radicalization and mobilization for conducting a suicide bombing requires a high degree of motivation and commitment to the cause for the bomber to carry out the mission.⁶²

2. Arrests and Indictments

The last observable behavior related to mobilizing for jihad relates to arrests and indictments of al-Shabaab members by non-Somali governments. Data for arrests by African governments came from the ACLED database, with data regarding arrests and

⁶² Michael Bond, "The Making of a Suicide Bomber," *New Scientist* 182 no. 2447 (Ma, 2004): 34–37. <http://search.proquest.com/docview/200349321?accountid=12702>.

indictments from the United States coming from the Department of Justice press releases. Arrests take priority over indictments in that indictments are only included if issued during the timeframe of the study, and the indicted person is not already arrested.

3. Protests and Demonstrations

Under degrade support, anti-government protests in Somalia and the AMISOM troop contributing countries are determined through the ACLED database. Similar to judging attacks against Somali and regional governments, protests will be judged against the context of its environment. Protests in Somalia that are related to a specific issue, such as the land dispute between Puntland and Somaliland over the Sol, Sanaag, and Cayn regions is excluded from the study. Al-Shabaab has not been involved in, or commented on that conflict between the autonomous regions of Puntland and Somaliland. Protests against the Somali constitution, Somali elections, and the Puntland President's extended term in office are included in the data since those issues are directly contested by al-Shabaab.

4. Critical Media

Opposition and criticism towards the AMISOM mission and foreign involvement in Somalia published in media sources not attributed to al-Shabaab are also observed behaviors for degraded support. This data was obtained through searching over 1,500 media products from the Open Source center over the study's timeframe for content critical of AMISOM's performance, or critical of AMISOM's presence and mission in Somalia. Criticism of AMISOM includes media products highlighting abuses against Somali citizens, reports of civilian casualties, reports of corruption, and media reports in which AMISOM officials are responding to criticism. The relationship between effects and observed behaviors are shown in Table 2.

Table 2. Observed behaviors and effects relationship

	Effects	
	Mobilize for Jihad	Degrade Support
Observed Behaviors	Number of suicide attacks in Somalia and AMISOM troop contributing countries	Anti-government protests in Somalia and AMISOM troop contributing countries
	Arrests and indictments, killing of al-Shabaab members by non-Somali governments.	Non-al-Shabaab media products advocating for withdrawal of AMISOM forces from Somalia
	Unattributed attacks against AMISOM, Somali, regional governments, or foreign entities in Somalia	

IV. RESULTS

A. PROPAGANDA THEMES

In the timeframe of this study (2011-2013), al-Shabaab's propaganda was predominantly focused on the themes of operational capacity and narrative, with those two themes respectively representing 38 and 31 percent of the group's propaganda output. The remainder of the propaganda output consisted of group identity and cohesion at eight percent, relevance at eight percent, strategic authority at seven percent, religious authority at five percent, and competing voices at three percent. Figure 1 shows the occurrence of each theme derived from Twitter and al-Shabaab's Radio Andalus programming.

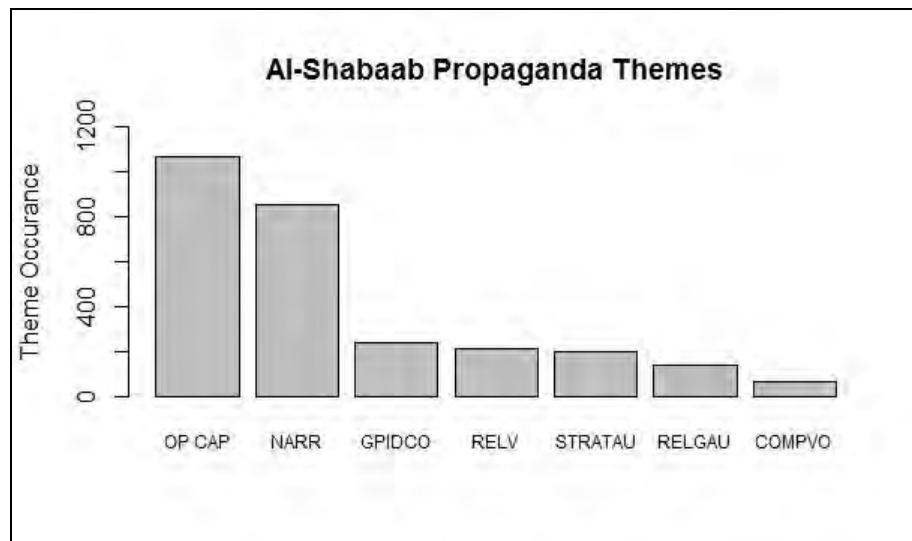


Figure 1. Al-Shabaab Propaganda Theme Frequency

When evaluating each theme over time, operational capacity and narrative consistently appeared in al-Shabaab propaganda during the timeframe of this study, with periodic peaks in theme prevalence. The remaining five themes appeared less frequently with respect to time, and in smaller quantities. Graphical representations of frequencies

for the propaganda themes corresponding to the desired effects of mobilize for jihad and degrade support are demonstrated in figures 2 and 3.

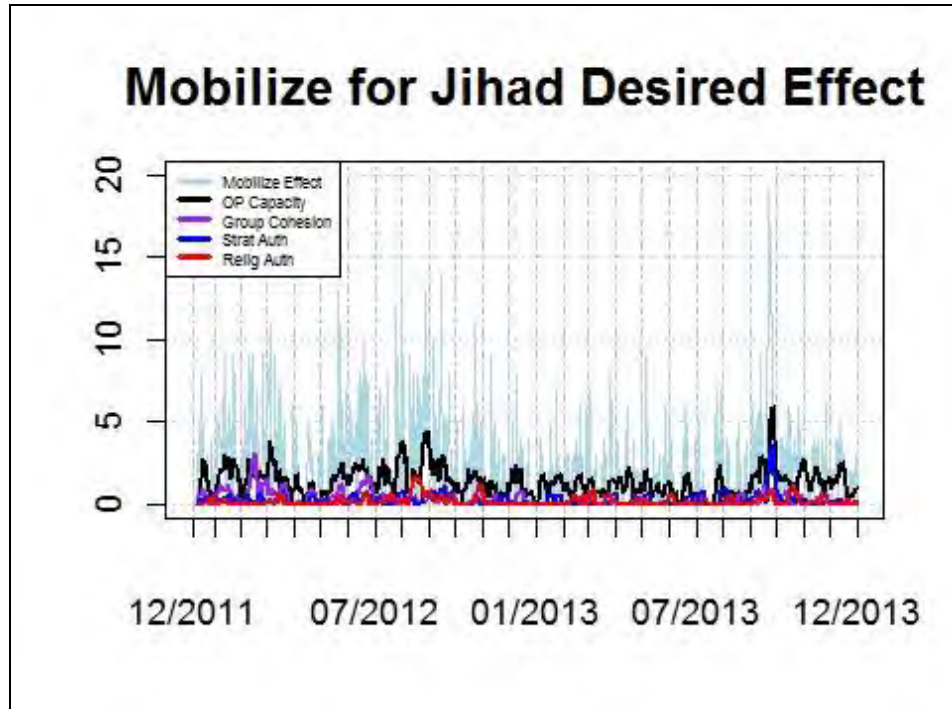


Figure 2. Mobilize for Jihad Theme Frequency

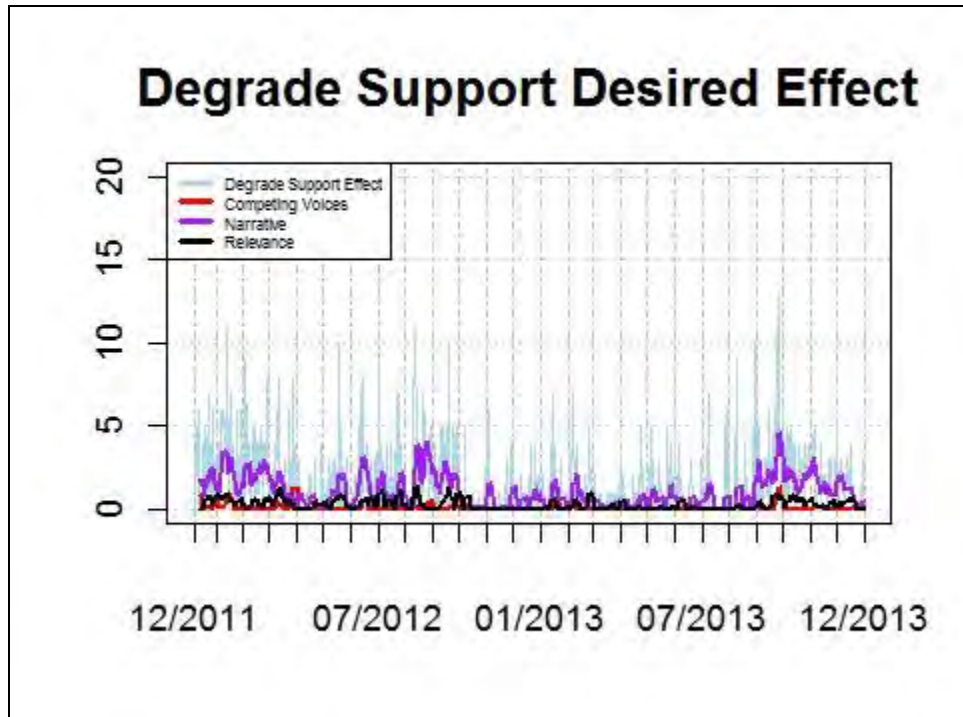


Figure 3. Degrade Support Theme Frequency

For the narrative theme, four peaks in theme frequency are observed. These peaks correspond to al-Shabaab attempting to capitalize on propaganda opportunities presented by its adversaries. On February 3, 2012 al-Shabaab’s Radio Andalus had discussed a variety of topics to include the crash of a supposed spy plane in the Badbaado 1 refugee camp outside of Mogadishu, looting by Ethiopian forces, and infighting amongst Somali forces.⁶³ That same week, al-Shabaab discussed the upcoming London conference on Somalia as a conspiracy against the Somali paper through outlining plans obtained from “documents linked to the Italian government,” which was also a former colonizer of Somalia.⁶⁴ Other peaks in narrative frequency include capitalizing on the defection of an Ethiopian sniper via twitter in May 2012, mocking the Somali government after a plane delivering weapons caught fire at the Mogadishu airport in early August 2013, followed

⁶³ Open Source Center, “Program Summary: Baydhabo Radio Andalus in Somali 1100 GMT 03 Feb 12,” <https://opensource.gov>.

⁶⁴ Open Source Center, “Al-Shabaab Finds Document Revealing Plans by European Nations for Somalia,” <https://opensource.gov>.

by criticism of Western response to Syrian chemical weapons use in late August 2013.⁶⁵ The frequency of the narrative theme over time is shown in Figure 4.

The operational capacity theme is the most consistently represented theme throughout the timeframe studied, particularly since al-Shabaab continually broadcast both large and small attacks against its enemies to demonstrate the group's capabilities to its audience.⁶⁶ The largest peak in frequency corresponds to a series of attacks conducted between July 19–25 in Somalia and Kenya during the holy month of Ramadan. Al-Shabaab claimed a series of explosions during the evening of 24 July to “expel the apostate militias, Somali Government soldier (sic), from residential areas,” in addition to assassinations of various TFG and AMISOM officials in Mogadishu during that same timeframe.⁶⁷ Other peaks correspond to the attack on the Westgate Mall from 22–24 September; coordinated attacks against Ethiopian, Kenyan, and TFG forces between December 2011 and January 2012; the twin suicide bombing of the Somali constitutional assembly in August 2012; and the attempted assassination of the Somali interior minister in May 2013.⁶⁸

The five remaining themes appeared far less often than narrative and operational capacity, with the less common themes prevalent around specific events. Group identity and cohesion appeared the most frequently among the less common themes, comprising eight percent of al-Shabaab's propaganda output. The significant peaks of this theme occur in February-March 2012, June 2012, and August 2013. The highest peaks from February-March 2012 correspond to al-Shabaab's formal merger with al-Qaeda and

⁶⁵ Open Source Center, “Highlights of Al-Shabaab's Twitter Account: 17–24 May 2012,” “Highlights of Al-Shabaab's Twitter Account: 8 - 14 Aug 2013,” “Highlights of Al-Shabaab's Twitter Account: 29 August - 4 September 2013,” <https://opensource.gov>.

⁶⁶ Melegrou-Hitchens, “Lights, Camera, Jihad: Al-Shabaab's Western Media Strategy,” 37.

⁶⁷ Open Source Center, “Somalia's Al-Shabaab Claims Responsibility for Mogadishu ‘Explosions,’” <https://opensource.gov>.

⁶⁸ Open Source Center, “Somalia's Al-Shabaab Terms Mogadishu Twin Suicide Attacks as Successful,” “Program Summary: Baydhabo Radio Andalus in Somali 1100 GMT 12 Jan 12,” “Program Summary: Andalus Radio in Somali 0500 GMT 22 September 13,” <https://opensource.gov>.

responding to claims of a falling out with Omar Hammami.⁶⁹ The peak in June 2012 corresponds with the announcement of a series of alliances with Hubeyr and Hawiye clan elders in the Bay and Bakool regions of Somalia.⁷⁰ Following June 2012, this theme maintains a low level of occurrence until October 2013 as al-Shabaab expresses solidarity with the protestors facing Egyptian security forces in Cairo.⁷¹

The relevance theme occurred slightly less than group identity and cohesion, comprising seven percent of al-Shabaab's propaganda output. The peaks between July and September 2012 represent an increased emphasis on al-Shabaab's ability to control the population and demonstrate governance during Kenya's advance on Kismayo. In July 2012 al-Shabaab claimed executing three men for allegedly spying for British and American intelligence agencies, implicating the men in the death of Bilal al-Berjawi from a drone strike.⁷² This is later followed in August 2012 by a spike in messaging demonstrating al-Shabaab's ability to provide services through provision of food and agricultural aid in areas under its control.⁷³ In September 2012 al-Shabaab continues to propagate messages demonstrating its ability to govern through a series of messages claiming to still be in control of Kismayo, before finally tweeting "Last night, after more than 5 years the Islamic administration in #Kismayo closed its offices."⁷⁴ After the fall of Kismayo, al-Shabaab has a series of messages revoking permits for distributing humanitarian aid from Islamic Relief for failure to comply with policies from al-

⁶⁹ Open Source Center, "OSC Summary -- Highlights of Al-Shabaab's Twitter Account: 10 - 16 Feb 2012," "OSC Summary -- Highlights of Al-Shabaab's Twitter Account: 15-22 Mar," <https://opensource.gov>.

⁷⁰ Open Source Center, "Program Summary: Kismaayo Radio Andalus 1030 GMT 20 Jun 12," <https://opensource.gov>.

⁷¹ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 15 - 21 August 2013," <https://opensource.gov>.

⁷² Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 19-25 July 2012," <https://opensource.gov>.

⁷³ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 10-16 August 2012," <https://opensource.gov>.

⁷⁴ Open Source Center, "Al-Shabaab, KDF Spokesman Post Updates on Kismaayo Situation: 27 Sep - 3 Oct 2012," <https://opensource.gov>.

Shabaab's Office for Supervising the Affairs of Foreign Agencies (OSAFA).⁷⁵ From this point, the relevance theme is absent for three months before appearing again at low levels regarding al-Shabaab's role in arbitrating clan disputes.⁷⁶

The frequencies of the remaining low-density themes of strategic authority, religious authority, and competing voices are shown in Figure 4. The most common theme in this group is strategic authority, with the largest peak in occurrence coinciding with the Westgate Mall attack. During the siege on the mall, al-Shabaab made a deliberate effort to portray the attack as a response to the Kenyan occupation of southern Somalia and demand the withdrawal of Kenyan forces.⁷⁷ Competing voices also peaked in prevalence during the Westgate attack, with al-Shabaab admonishing regional and Western media outlets to verify information through al-Shabaab instead of spreading false information and rumors from "unreliable" sources such as speculating on the nationality of the attackers.⁷⁸ Other peaks in activity for competing voices are centered around a December 2011 Twitter exchange with the spokesman for the Kenyan Defense Forces, and criticizing the independent media outlet *Somali Memo* over a supposed March 2012 interview of al-Shabaab leader Shaykh Mukhtar Robow.⁷⁹ The main peak in for religious authority is focused on the end of Ramadan in August 2012 with al-Shabaab commenting on Eid festivals and praying for martyrs.⁸⁰ Heightened messaging during religious celebrations is also displayed with al-Shabaab praising pilgrims during the Eid-al Adha celebrations in Mecca in October 2012.⁸¹

⁷⁵ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 4 - 10 Oct 2012," <https://opensource.gov>.

⁷⁶ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 10 - 17 January 2013," <https://opensource.gov>.

⁷⁷ Anzalone, "The Nairobi Attack and Al Shabab's Media Strategy," 3

⁷⁸ Open Source Center, "Somalia: Twitter Suspends Fifth Al-Shabaab Account for Posting Details of Nairobi Mall Siege," <https://opensource.gov>.

⁷⁹ Open Source Center, "OSC Summary -- Al-Shabaab, Kenyan Military Spokesman Engage in Twitter Debate," "Highlights of Al-Shabaab's Twitter Account: 22 - 29 Mar 2012," <https://opensource.gov>.

⁸⁰ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 17-23 August 2012," <https://opensource.gov>.

⁸¹ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 18 - 25 Oct 2012," <https://opensource.gov>.

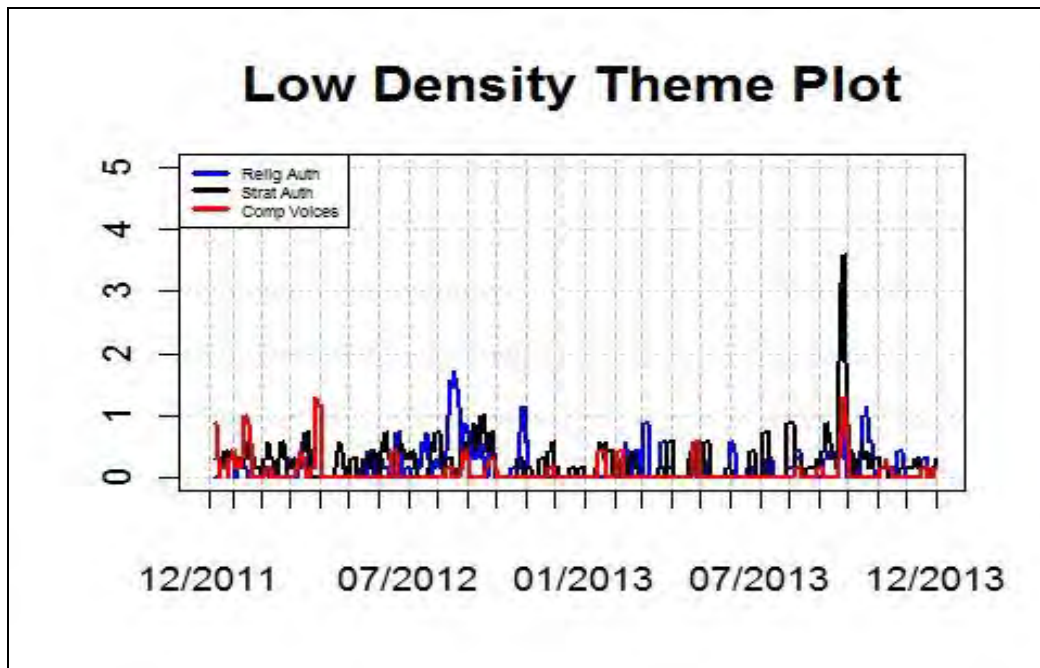


Figure 4. Low Density Theme Frequency

B. PROPAGANDA SOURCES

Analysis of the two sources of propaganda featured in this study demonstrates the occurrence of radio and Twitter output over time. Figure 5 shows al-Shabaab’s Radio Andalus program was more prolific than Twitter through October 2012. Following October 2012, Twitter activity remained consistent, with a significant reduction in Radio output. This drop in activity from Radio Andalus coincides with Kenyan Defense Forces (KDF) capturing Kismayo from al-Shabaab at the end of September 2012.⁸² The Open Source Center reported that there was no activity from Radio Andalus after al-Shabaab’s withdrawal from Kismayo, to include Internet broadcasts on the website <http://calamada.com>, which regularly streamed Radio Andalus broadcasts from Somalia.⁸³ Activity from Radio Andalus did not pick up again until January 2013, resuming at a much lower level than before the KDF capture of Kismayo.

⁸² “Somalia Islamist Abandon Kismayo Amid AU Attack,” *BBC News Africa*, September 29, 2012, <http://www.bbc.com/news/world-africa-19769058>.

⁸³ Open Source Center, “FYI -- Al-Shabaab-Owned Radio Andalus Off Air Since 27 Sep,” <https://opensource.gov>.

The one spike in Radio Andalus output occurred in mid-January 2013, with the failed rescue attempt of the French hostage Denis Alex in Bullo Mareer, which al-Shabaab capitalized on to claim victory in repelling the attack and to demonstrate its own authority through statements declaring al-Shabaab controls Alex's fate.⁸⁴ Even with the reappearance of Radio Andalus in early 2013, the propaganda output did not return to pre-October 2012 levels until September 2013. This increase corresponds with the suicide attack on a popular Mogadishu restaurant that killed 15 people on September 7, 2013 and continued through the Westgate attack.⁸⁵

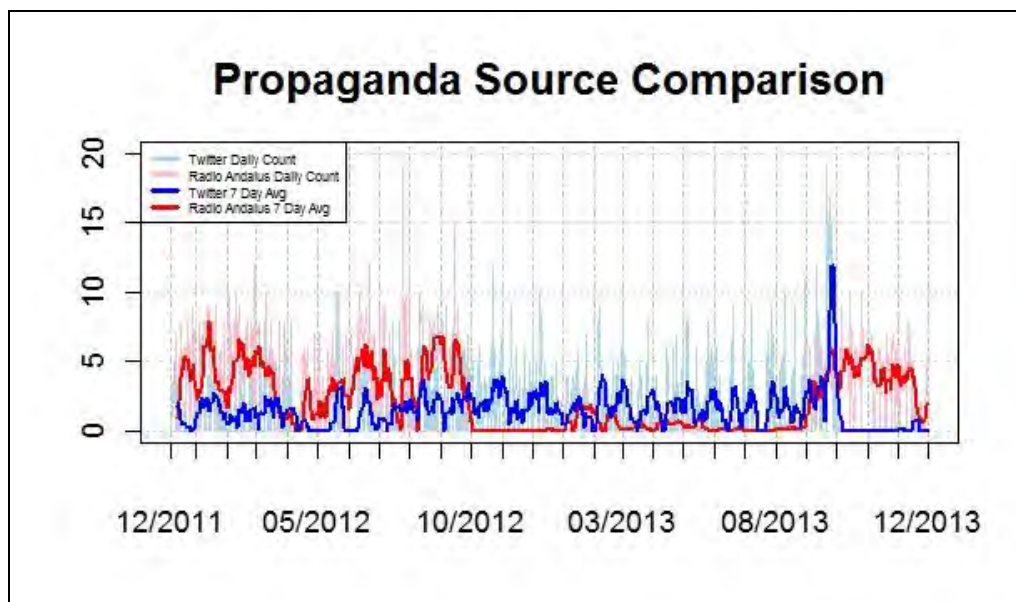


Figure 5. Propaganda Source Comparison

As shown in Figure 5, Twitter output remained fairly constant, with the most pronounced spike in activity corresponding to the Westgate Mall attack in September

⁸⁴ Edward Cody, "France Fails to Free Intelligence Agent Held Captive in Somalia," *The Washington Post*, January 12, 2013, http://www.washingtonpost.com/world/hostage-in-somalia-killed-during-french-rescue-attempt/2013/01/12/963c42e2-5cae-11e2-9fa9-5fbdc9530eb9_story.html.

⁸⁵ Abdirahman Hussein and Abdi Sheikh, "Al Shabaab Bombers Strike Mogadishu Restaurant, 15 Dead," Reuters, September 7, 2013, <http://www.reuters.com/article/2013/09/07/us-somalia-blasts-idUSBRE98607I20130907>.

2013. Since al-Shabaab primarily tweeted in English and had a broad reach to Western and Kenyan audiences, Twitter was the platform of choice for al-Shabaab to exploit its actions at the Westgate Mall.⁸⁶ By using the microblogging site, al-Shabaab was able to provide constant updates on the siege to the public and news media, communicate demands on the Kenyan government, and issue threats of additional attacks should demands remain unfulfilled.⁸⁷ Through “live-tweeting” the attack and holding out against the KDF for four days, al-Shabaab showed the capability to manipulate perceptions regarding the Kenyan response through confusing, if not outright undermining the Kenyan narrative.

An interesting feature of al-Shabaab’s Twitter activity is how quickly it tapered off following the Westgate siege. During the week following the siege, al-Shabaab continued to mock the Kenyan response to the attack by tweeting “A week after #Westgate, the Kenyan govt (sic) and Western intelligence officials failed to uncover the facts & details of the Westgate Operation.”⁸⁸ This tweet was followed by a tweet in Arabic vowing to avenge the “perpetrators of oppression and aggression,” with another tweet containing a link to a Swahili praise song threatening jihad against Kenya for oppressing Muslims.⁸⁹ Shortly after posting the threats, al-Shabaab’s Twitter account was suspended for violating Twitter’s terms and conditions, which was the sixth time al-Shabaab’s account was suspended for the same reason.⁹⁰ Following the suspension, al-Shabaab went silent on Twitter, while resuming levels of Radio Andalus output not seen since before the KDF liberated Kismayo. Twitter activity was not observed until December 16, 2013, with al-Shabaab activating its seventh account and declaring “with renewed vitality, the 140-character journalistic guerrilla warfare continues to challenge the mainstream Western narrative #Jihadnalism (sic).”

⁸⁶ Anzalone, “The Nairobi Attack and Al-Shabaab’s Media Strategy,” 3.

⁸⁷ Ibid.

⁸⁸ Open Source Center, “Highlights of Al-Shabaab’s Twitter Account: 27 September - 3 October 2013,” <https://opensource.gov>.

⁸⁹ Ibid.

⁹⁰ Open Source Center, “OSC Observation -- Twitter Suspends Sixth Al-Shabaab Account,” <https://opensource.gov>.

The suspensions of six different Twitter accounts had a significant impact on al-Shabaab's ability to directly reach people through its propaganda. Al-Shabaab's Twitter followers were observed on a weekly basis starting January 4, 2012, when the group had a followership of 7,538.⁹¹ The observed followership of al-Shabaab's account @HSMPress peaked at 21,524 on January 23, 2013 before the first account was suspended on January 25, 2013 after al-Shabaab posted pictures of a dead French soldier from the failed Denis Alex rescue and threatened to execute two Kenyan hostages if the Kenyan government failed to meet demands.⁹² Ironically, it was the aftermath of the failed Denis Alex rescue that saw the largest jump in Twitter followership, with al-Shabaab gaining 3,511 followers from January 10–17, 2013.⁹³

Al-Shabaab was active on Twitter within two weeks of the @HSMPress suspension, but never gained the followership it had prior to January 2013. The new account, @HSMPRESS1 steadily gained followership from the initial observation of 1,945 followers on February 7, 2013.⁹⁴ Without a sensational story to capitalize on, followership peaked at 6,083 on September 4, 2013 before @HSMPRESS1 was suspended for threatening the U.S. and Somali presidents.⁹⁵ Al-Shabaab had its third account functional in time for the anniversary of the September 11th attacks, with 927 followers on @HSM_Press.⁹⁶ This account did not have the same amount of time as the previous accounts to gather followers before the Westgate attack, which came only 10 days after activation.

⁹¹ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 3 - 12 Jan 2012." January 13, 2012, <https://opensource.gov>.

⁹² Open Source Center, "Twitter Suspends Al-Shabaab Account; User Reaction Mixed." January 25, 2013, <https://opensource.gov>.

⁹³ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 10 - 17 January 2013." January 18, 2013, <https://opensource.gov>.

⁹⁴ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 3 - 7 Feb 2013." February 7, 2013, <https://opensource.gov>.

⁹⁵ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 29 August - 4 September 2013." September 5, 2013, <https://opensource.gov>.

⁹⁶ Open Source Center, "Highlights of Al-Shabaab's Twitter Account: 10 - 11 September 2013." September 12, 2013, <https://opensource.gov>.

During the Westgate siege, al-Shabaab used four different accounts with Twitter shutting down al-Shabaab accounts on an almost daily basis. Through the multiple account suspensions, al-Shabaab followership remained between 1,300-1,400 followers throughout the siege, limiting the group's ability to directly reach followers, and in turn have followers interact with the group.⁹⁷ Figure 6 shows that following the Westgate attack, al-Shabaab did regain followership once its account stabilized, reaching 5,779 followers.⁹⁸ The rise in followers was short lived, with al-Shabaab using Twitter to call for jihad against Kenya and vowing to “avenge perpetrators of oppression and aggression,” resulting in the account being suspended.⁹⁹

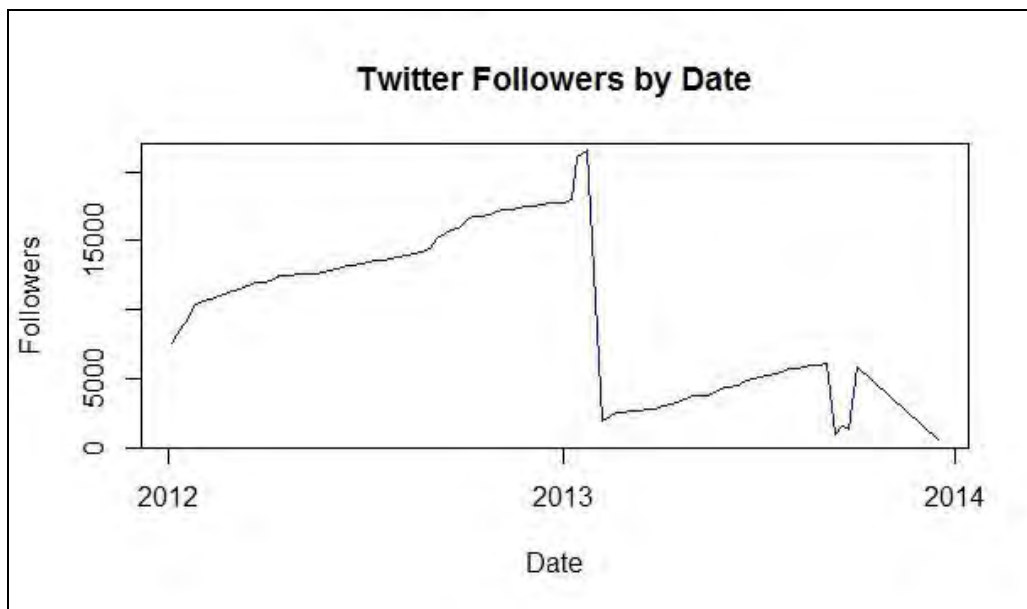


Figure 6. Al-Shabaab Twitter Followers

⁹⁷ Open Source Center, “OSC Observation -- Al-Shabaab Allegedly Launches New Twitter Account,” September 23, 2013, <https://opensource.gov>.

⁹⁸ Open Source Center, “Highlights of Al-Shabaab’s Twitter Account: 27 September - 3 October 2013,” October 3, 2013, <https://opensource.gov>.

⁹⁹ Open Source Center, “OSC Observation -- Twitter Suspends Sixth Al-Shabaab Account,” October 4, 2013, <https://opensource.gov>.

C. THEMES BY SOURCES

When comparing the prevalence of themes by the source of propaganda, the ratio of themes from Radio Andalus is similar to the total theme occurrence shown in Figure 1. Twitter follows a different pattern than Radio Andalus with regards to which themes are more prevalent. Operational capacity and narrative are still top two themes with religious authority and competing voices as the two least common themes; however strategic authority moved from the third least common theme to the third most common theme ahead of group identity and cohesion as shown in Figure 7.

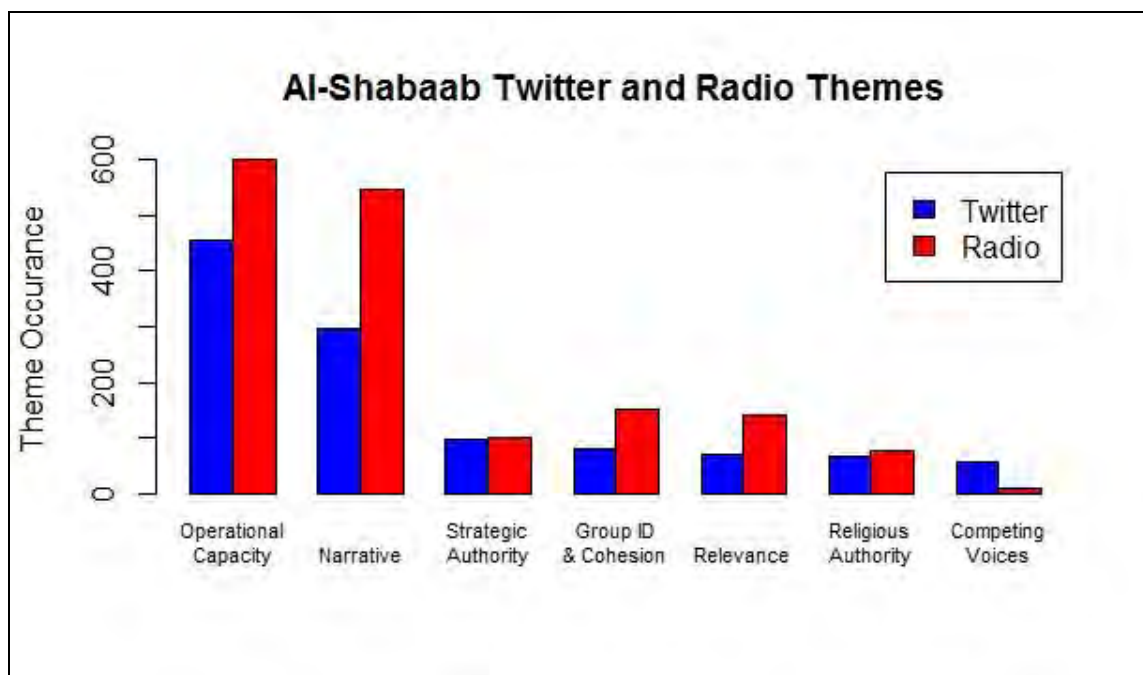


Figure 7. Theme Prevalence by Source

Strategic authority appeared approximately the same number of times on Radio Andalus as Twitter (100 and 97 times, respectively), though the appearance of the theme comprised nine percent of Twitter messaging – compared to six percent of Radio Andalus messaging, and seven percent of total messaging. Figure 8 compares the strategic authority theme over time between Radio Andalus and Twitter. Radio Andalus was the primary means of disseminating the strategic authority theme until August 2012, when the KDF was advancing on Kismayo. The aggregate frequency of the strategic authority

theme didn't necessarily increase following al-Shabaab's departure from Kismayo, but with Radio Andalus off the air al-Shabaab used Twitter more often to communicate the strategic authority theme. The largest spike predictably coincided with the Westgate attack as al-Shabaab used Twitter to provide the strategic context behind the attack. Following Westgate and the suspension of al-Shabaab's sixth Twitter account, Radio Andalus again became the primary means of dissemination.

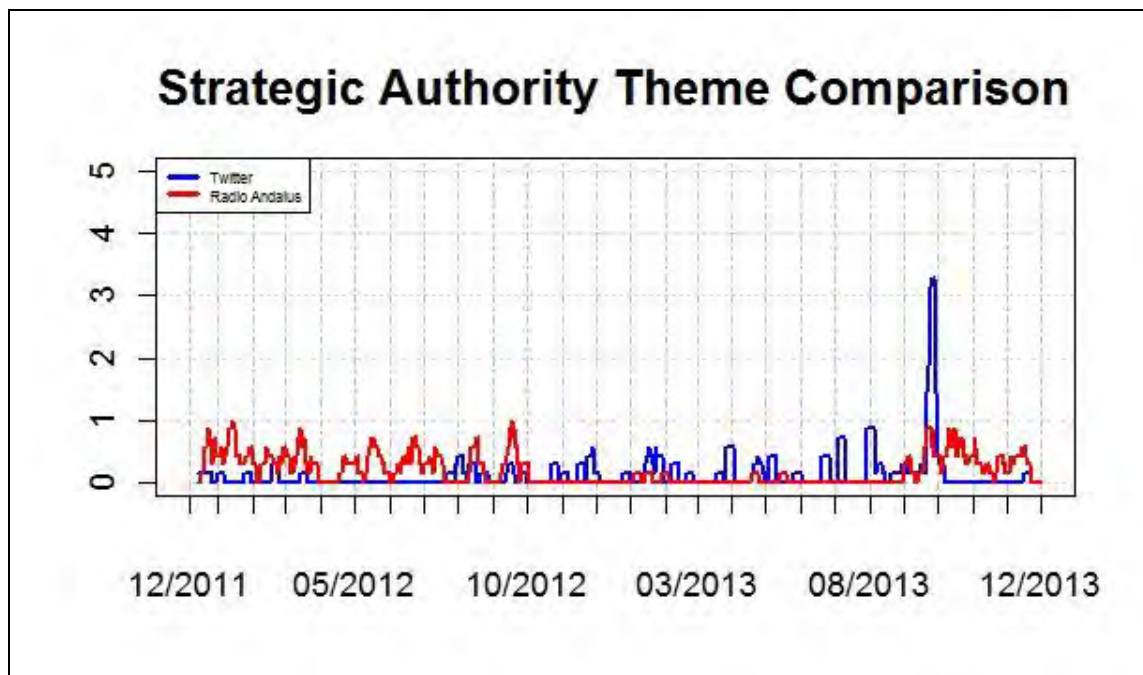


Figure 8. Strategic Authority Theme Comparison

Another interesting observation in theme occurrence involves the least common theme for both sources – competing voices. While only comprising three percent of total propaganda output, the competing voices theme is overwhelmingly represented through Twitter messaging as shown in Figure 7. This theme comprises five percent of Twitter messaging compared to barely half-percent of Radio Andalus messaging. Figure 9 shows the predominance of Twitter as the platform of choice for competing voices, with the largest spikes in the theme coinciding with Twitter exchanges between al-Shabaab and the KDF spokesman MAJ Chirchir, responding to the supposed *Somali Memo* interview of Shaykh Mukhtar Robow, and criticizing Western media coverage of the Westgate

attack. This indicates al-Shabaab sees Twitter as an effective tool to directly engage external audiences, especially when trying to establish credibility or attempting to discredit information propagated by others. The almost non-existent use of the competing voices theme on Radio Andalus indicates al-Shabaab places a lower priority on countering competing media or establishing credibility with local audiences. By closing competing radio stations, confiscating televisions and satellite dishes, and intimidating journalists in areas under its control, al-Shabaab is able to tightly control information content without having to contend with opposing media.¹⁰⁰

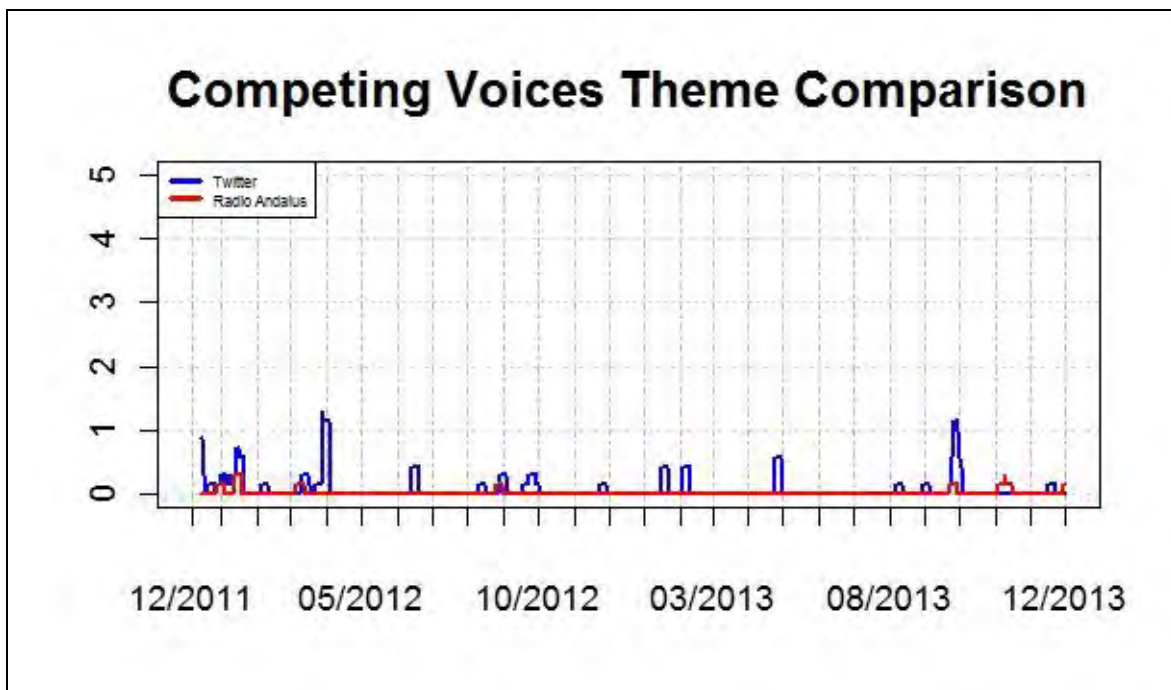


Figure 9. Competing Voices Theme Comparison

D. BEHAVIORAL ANALYSIS

Trends in behavior are shown in Figure 10. The overwhelming majority of observed behaviors were attacks, with the attacks predominately occurring in Somalia

¹⁰⁰ David Conrad, Andrea Crossan, "How Al-Shabaab is Creating a Media Empire and Creating Chaos in Kenya," *Public Radio International*, June 27, 2014, <http://www.pri.org/stories/2014-06-27/how-al-shabab-building-media-empire-and-creating-chaos-kenya>.

against AMISOM forces, Somali Army, or Somali police forces – with attacks in Kenya coming in a distant second. Attacks stayed consistently high compared to the other behaviors, with two noticeable decreases in activity. The decreases in attacks ironically correspond to defeats suffered by al-Shabaab. The first significant decrease in May 2012 is when AMISOM forces ousted al-Shabaab from the Daynile district outside of Mogadishu.¹⁰¹ Following the capture of Daynile by AMISOM, attacks rose again, hitting a peak during the KDF advance on Kismayo, before falling again once the KDF secured Kismayo at the end of September 2012. Attacks picked up again soon thereafter, maintaining a steady pace with a peak from July through August 2013, which corresponds with Ramadan that year.

Another notable behavior is protests, with peaks in activity in July 2012 and February -March 2013. Interestingly, the spikes in protest activity do not correlate with any mass movement. The closest any peak comes to an organized social phenomenon is in July 2012, Muslims in Addis Ababa protested over the Ethiopian government's anti-Islamic policies. The protest in Ethiopia remained fairly consistent throughout the duration of the study, which indicates a peak in protest activity would be the result of an uptick in protest in other areas covering other topics. The remainder of protest were predominately in Somalia, and covered a wide variety of topics from the distribution of food aid, formation of a Jubbaland state, and the extension of the Puntland president's term in office – with no one topic showing predominance over the others during any given time during the peaks in protest activity.

¹⁰¹ Mohammed Yusuf, "Al-Shabaab Radio Station off the Air in Somali Capital," May 24, 2012,

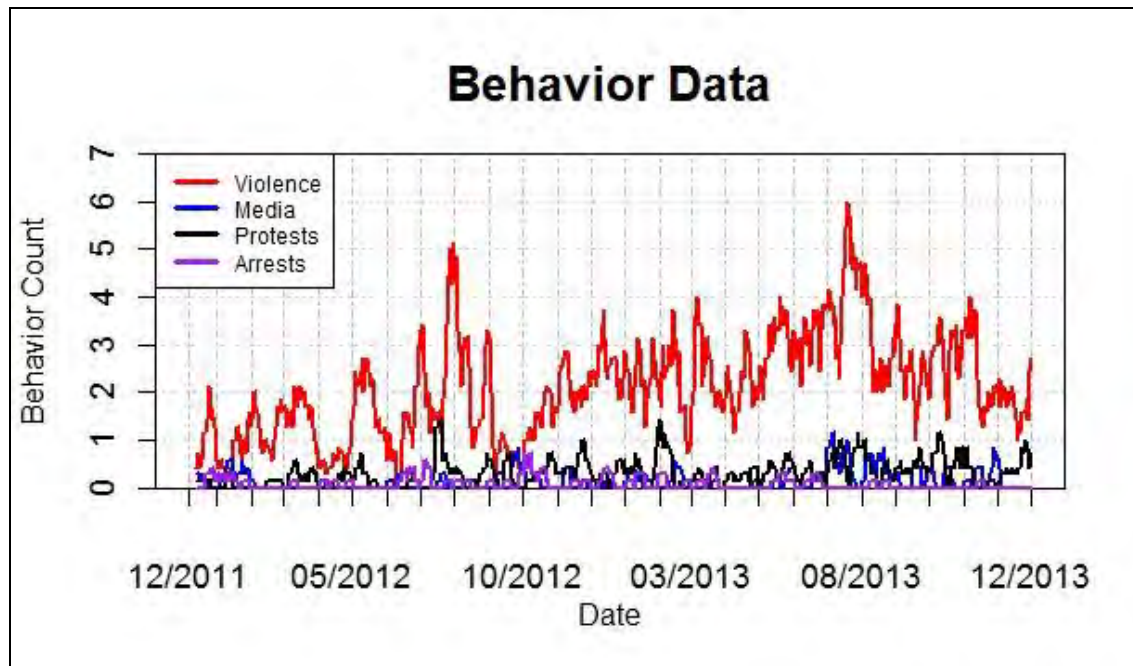


Figure 10. Behavior Data

One more interesting behavior concerns the prevalence of critical media. Throughout most of the study, the level of critical media stayed low, especially when compared to attacks and protests. However, from July through September 2013, there was an increase in media criticizing AMISOM. During this time there were increased demands for the withdrawal of the KDF from Somalia by Somali government officials due to the KDF playing partisan clan politics in Kismayo and arresting senior Somali Army officers.¹⁰² Accusations of corruption and theft of food aid were also leveled against the Ugandan People's Defense Force (UPDF) contingent of AMISOM during this time, resulting in investigations and the removal of UPDF commanders.¹⁰³

¹⁰² Hiiraan Online, "Somali Minister Calls for Expulsion of AMISOM from Kismayo," July 1, 2013, http://www.hiiraan.com/news4/2013/July/30103/somali_minister_calls_for_expulsion_of_amisom_from_kismayo.aspx#sthash.rvV23Me0.dpbs.

¹⁰³ Chris Obore, "UPDF Bosses Suspended Over Stealing Food," *Daily Monitor*, July 14, 2013, <http://www.monitor.co.ug/News/National/UPDF-bosses-suspended-over-stealing-food/-/688334/1913926/-/r2tf3l/-/index.html>.

E. DATA ANALYSIS

To understand the effectiveness of al-Shabaab's propaganda requires an evaluation of the relationship between propaganda themes, behaviors, and desired effects. Effects are indicative of behaviors, with each effect being the aggregate of the corresponding behaviors listed in Table 2. Behaviors are in turn influenced by propaganda designed to produce the desired effect. Statistical analysis using quasi-Poisson regression was used to separately evaluate the relationships between effects and total propaganda, effects and individual themes, and behaviors with themes. This allows effectiveness to be evaluated from a macro level with the aggregated behaviors and propaganda themes down a micro level to determine which specific themes affected specific behaviors.

Overall Effectiveness

The first relationship evaluated was the effectiveness of the propaganda themes designed to degrade support for Somali and regional governments and the AMISOM mission. There was no significant statistical relationship between the propaganda and aggregated behaviors related to degrade support. Since behaviors that contribute to effects do not change instantaneously with propaganda dissemination, the statistical relationship was evaluated from one through four weeks to determine the effect of propaganda on support. Interestingly, even when taking time into consideration, there was no statistical relationship between propaganda designed to degrade support and the desired effect, suggesting that al-Shabaab's efforts to decrease support for its adversaries is having no cumulative effect.

Table 3. Degrade Support Effectiveness

	<i>Dependent variable:</i>			
	Degrade Support Weekly Effects			
	(1)	(2)	(3)	(4)
Degrade Lag	0.219*** (0.064)	0.228*** (0.064)	0.228*** (0.064)	0.229*** (0.064)
7 Days	-0.060 (0.054)			
14 Days		-0.055 (0.064)		
21 Days			-0.052 (0.069)	
28 Days				-0.058 (0.072)
Constant	-0.830*** (0.107)	-0.844*** (0.118)	-0.849*** (0.124)	-0.841*** (0.129)
Observations	750	743	736	729
<i>Note:</i>		*p<0.1	**p<0.05	***p<0.01

When disaggregating the themes related to degrading support, the relevance theme sticks out as being more significant than the others as shown in Table 4. The theme shows significance in the first, third, and fourth weeks, indicating that there is a quick impact when al-Shabaab stresses relevance in its propaganda, with effectiveness lasting several weeks. The second week only had weak negative significance for relevance. Propaganda stressing relevance is not beneficial for al-Shabaab though, with a negative statistical relationship indicating that al-Shabaab's efforts at demonstrating durability and the ability to govern is counterproductive towards degrading support to the group's adversaries.

Table 4. Degrade Support Effectiveness by Theme

	<i>Dependent variable:</i>			
	Degrade Support Weekly Effects			
	(1)	(2)	(3)	(4)
Degrade Lag	0.208*** (0.064)	0.204*** (0.064)	0.199*** (0.064)	0.191*** (0.065)
Narrative	0.023 (0.083)	0.056 (0.105)	0.114 (0.117)	0.171 (0.129)
Competing Voices	-0.065 (0.336)	-0.225 (0.495)	-0.367 (0.618)	-0.691 (0.735)
Relevance	-0.534** (0.254)	-0.621* (0.328)	-0.855** (0.383)	-1.048** (0.435)
Constant	-0.786*** (0.107)	-0.776*** (0.118)	-0.758*** (0.122)	-0.732*** (0.124)
Observations	750	743	736	729
<i>Note:</i>		* p<0.1	** p<0.05	*** p<0.01

Compared to the degrade support effect, aggregated propaganda themes related to mobilize for jihad did have statistical significance as shown in Table 5. The data demonstrates a negative relationship between al-Shabaab's propaganda and the desired effect, indicating that al-Shabaab's efforts to use propaganda to mobilize supporters for jihad is counterproductive. Propaganda designed to mobilize al-Shabaab's audience for jihad has a quick and enduring relationship with effects, showing significance from one through four weeks.

Table 5. Mobilize for Jihad Effectiveness

<i>Dependent variable:</i>				
Mobilize for Jihad Weekly Effects				
	(1)	(2)	(3)	(4)
Mobilize Lag	0.078 ^{***} (0.015)	0.079 ^{***} (0.015)	0.078 ^{***} (0.015)	0.073 ^{***} (0.015)
7 Days	-0.084 ^{***} (0.024)			
14 Days		-0.107 ^{***} (0.028)		
21 Days			-0.120 ^{***} (0.031)	
28 Days				-0.138 ^{***} (0.033)
Constant	0.774 ^{***} (0.072)	0.826 ^{***} (0.078)	0.855 ^{***} (0.083)	0.910 ^{***} (0.088)
Observations	750	743	736	729
<i>Note:</i> * p<0.1; ** p<0.05; *** p<0.01				

Evaluation of the individual themes related to mobilize for jihad show a greater number of themes having a statistical significance over time than with the degrade support effect. Table 6 shows the statistical significance for each theme intended to increase mobilization for jihad. Three out of four themes for mobilize for jihad showed a statistically significant impact on behavior change within four weeks. Group identity and cohesion and operational capacity have a negative impact towards the effect, with strategic authority having a positive relationship towards mobilization for jihad.

These results suggest that al-Shabaab propaganda stressing operational capacity or group identity and cohesion is statistically ineffective and even counterproductive. The theme that had the most consistent impact was group identity and cohesion with significance from one to four weeks, suggesting an immediate and lasting negative impact for al-Shabaab highlighting unity with other militant movements and Somali clans. Operational capacity has a similar relationship, indicating that behaviors associated with mobilization for jihad decreased after three weeks of highlighting operational success and issuing threats, with weak significance in the second week. Conversely, strategic authority has a positive relationship with mobilize for jihad, suggesting that directly calling Muslims to action is more effective than expressing solidarity with other jihadi groups or demonstrating military prowess.

Table 6. Mobilize for Jihad Effectiveness by Theme

	<i>Dependent variable:</i>			
	Mobilize for <i>Jihad</i> by Weeks			
	(1)	(2)	(3)	(4)
Mobilize Lag	0.074*** (0.015)	0.072*** (0.015)	0.068*** (0.015)	0.060*** (0.015)
Group ID & Cohesion	-0.440*** (0.100)	-0.423*** (0.127)	-0.451*** (0.150)	-0.514*** (0.173)
Strategic Authority	0.047 (0.104)	0.175 (0.142)	0.395** (0.173)	0.615*** (0.194)
Operational Capacity	-0.005 (0.044)	-0.116* (0.063)	-0.221*** (0.082)	-0.287*** (0.101)
Religious Authority	-0.144 (0.117)	0.078 (0.144)	0.206 (0.183)	0.180 (0.229)
Constant	0.747*** (0.069)	0.835*** (0.081)	0.916*** (0.089)	0.996*** (0.097)
Observations	750	743	736	729
<i>Note:</i>		* p<0.1; ** p<0.05; *** p<0.01		

Propaganda Sources

A comparison of Twitter and Radio Andalus highlights the difference medium has on the effectiveness of a message. Each effect was evaluated separately to determine the statistical relationship based on theme and method of delivery. Since effects were most consistently seen at four weeks, further evaluation of effectiveness disaggregated by sources considered effects at a 28 day rolling average for theme occurrence.

For the degrade support effect, the source of propaganda primarily mirrors trends already observed, with themes disseminated by Radio and Twitter largely insignificant towards the degrade support effect and its associated behaviors. The only theme having a strong impact on degrade support via Twitter is narrative, which has a significant positive impact on protest and the overall effect, with a weak significance towards critical media. This shows that al-Shabaab's denigration of Western influence and foreign involvement in Somalia does have a statistical effect on generating protest, and contributed towards generating a positive impact towards the overall effect. The only other theme exhibiting any significance is competing voices, which did not reach the five percent significance level for this study.

Table 7. Twitter Effects on Degrade Support

	Twitter Effects on Degrade Support		
	Degrade Support (1)	Media (2)	Protests (3)
Degrade (1-day lag)	0.178*** (0.067)		
Media (1-day lag)		0.464*** (0.147)	
Protests (1-day lag)			0.316*** (0.094)
Narrative	0.707*** (0.254)	0.824* (0.469)	0.652** (0.300)
Competing Voices	-1.522* (0.866)	-0.528 (1.550)	-1.987* (1.059)
Relevance	-0.982 (0.612)	-1.545 (1.255)	-0.672 (0.698)
Total Twitter Volume	-0.029 (0.039)	-0.030 (0.073)	-0.025 (0.046)
Constant	-0.875*** (0.171)	-2.136*** (0.315)	-1.276*** (0.202)
Observations	729	729	729
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01		

Radio also exhibits a low impact on the degrade support effect and behaviors, with the only theme having an effect being competing voices. As shown in Table 10, competing voices has a significant positive impact on media critical of AMISOM and weakly negative significance towards protests against regional adversaries. This is interesting since Radio Andalus primarily reaches local audiences in Somalia and competing voices was less than one percent of total output through Radio Andalus. In addition, competing voices focused on countering the narrative of Western and regional media that criticized al-Shabaab. Since al-Shabaab controlled the media in areas where

Radio Andalus broadcast, there was little to no media competition for the group to counter.¹⁰⁴

Al-Shabaab focused the vast majority of its effort toward competing voices through Twitter, though the few instances of this theme appearing on radio did correspond with a spike in protests and critical media in late 2013. While able to significantly influence critical media, competing voices had no statistical influence on the overall desired effect of degrade support. Aside from competing voices, there were no other themes exhibiting any significant relationship towards behavior or the accumulated effect, indicating that radio was a largely ineffective medium for degrading support to al-Shabaab's adversaries.

¹⁰⁴ Somalia Report, "Al-Shabaab's Media Outlet,"
http://www.somaliareport.com/index.php/post/3485/Al-Shabaabs_Media_Outlets.

Table 8. Radio Effects on Degrade Support

	Radio Effects on Degrade Support		
	Degrade Support (1)	Media (2)	Protests (3)
Degrade (1-day lag)	0.202*** (0.065)		
Media (1-day lag)		0.417*** (0.144)	
Protests (1-day lag)			0.330*** (0.093)
Narrative	0.254 (0.494)	0.795 (1.026)	0.071 (0.552)
Competing Voices	0.771 (3.965)	14.074** (6.748)	-9.245* (5.396)
Relevance	0.313 (0.835)	-0.396 (1.528)	0.475 (1.001)
Total Radio Volume	-0.192 (0.198)	-0.430 (0.403)	-0.089 (0.223)
Constant	-0.731*** (0.104)	-1.849*** (0.182)	-1.162*** (0.119)
Observations	729	729	729
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01		

Compared to degrade support, Twitter primarily has a significantly positive impact on the behaviors associated with mobilize for jihad as exhibited in Table 9, which is remarkably different from the combined impact of al-Shabaab propaganda using both sources highlighted in Table 6.

All Twitter themes, with the exception of group cohesion and identity, had a significant positive relationship towards the overall effect of mobilize for jihad. This same pattern emerged when evaluating Twitter themes against violence, indicating that

Twitter was an effective means for al-Shabaab to incite violence and mobilize its audience for jihad. Conversely, Twitter was an ineffective medium to influence arrests, with strategic authority being counterproductive towards this behavior. Arrests are an indirect means to observe al-Shabaab activity outside of Somalia's borders, so the negative relationship between strategic authority and arrests could indicate fewer al-Shabaab sympathizers being caught outside of Somalia either conducting operations or traveling to join the group in Somalia. With Twitter being al-Shabaab's primary instrument to disseminate information to a global audience, a lack of activity outside of Somalia could be an indicator of declining influence among foreigners prone to jihad.

Interestingly, the strategic authority theme and group identity and cohesion theme have opposite effects towards violence and mobilization for jihad on Twitter. This indicates al-Shabaab is having some effectiveness at inciting violence through advertising al-Shabaab as a vanguard against foreign occupation – but the same theme has the opposite effect outside Somalia's borders. Conversely, expressing unity with the global Muslim community, Somali clans, and other jihadi movements is counterproductive at influencing violence and advancing the mobilize for jihad effect. Potential explanations for this disparity could be that the two themes resonate differently between Somali and non-Somali audiences in regards to answering the call to jihad or accepting solidarity with the global jihad movement – which is unpopular among Somalis.¹⁰⁵

The last interesting statistic regarding Twitter's effects on mobilize for jihad are the effect total Twitter volume has on mobilization. Volume has a significant negative effect on violence, with weak significance towards arrests and the overall effect. This indicates that while individual themes may have a positive impact on increasing al-Shabaab inspired violence; Twitter's combined volume has a statistically deleterious effect on violence and a weak negative effect on mobilize for jihad.

¹⁰⁵ Thomas, "Exposing the Exploiting Weaknesses in the Merger of Al-Qaeda and Al-Shabaab," 418.

Table 9. Twitter Effects on Mobilize for Jihad

	Twitter Effects on Mobilize for Jihad		
	Mobilize for Jihad	Violence	Arrests
	(1)	(2)	(3)
Mobilize (1-day lag)	0.066*** (0.015)		
Violence (1-day lag)		0.070*** (0.015)	
Arrest (1-day lag)			-0.110 (0.451)
Strategic Authority	1.047*** (0.323)	1.200*** (0.330)	-5.189*** (1.905)
Group ID and Cohesion	-1.038** (0.431)	-1.057** (0.443)	-1.042 (1.819)
Religious Authority	0.894** (0.385)	0.977** (0.396)	-1.738 (1.595)
Operational Capacity	0.424** (0.205)	0.442** (0.210)	-0.198 (0.888)
Total Twitter Volume	-0.256* (0.141)	-0.295** (0.145)	1.058* (0.631)
Constant	0.638*** (0.083)	0.620*** (0.084)	-3.187*** (0.412)
Observations	729	729	729
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01		

By comparison, the same themes disseminated through Radio Andalus are largely insignificant, with the exception of strategic authority. Table 12 shows that strategic authority is the only theme with a significant statistical relationship with mobilize for jihad and its associated behaviors. The effect on violence and arrests remains the same as Twitter, however the overall relationship towards mobilize for jihad on Radio Andalus is the opposite of Twitter. The opposing results between violence and arrests could be an indicator that a local audience may answer the call to action from al-Shabaab, with the

ensuing violence hindering sympathizer activity outside of Somalia due to increased security measures. Since radio is a more localized method of propaganda and prone to inactivity as seen in Figure 5, the negative effects of the strategic authority theme on sympathizers outside of Somalia are magnified, giving strategic authority a negative relationship with the overall mobilize for jihad effect.

Overall, the difference between Radio Andalus and Twitter seen in the mobilize for jihad effect is indicative of how consistently al-Shabaab made use of each propaganda source. As demonstrated in Figure 5, al-Shabaab stayed fairly consistent with Twitter propaganda throughout the course of this study, with the only significant absence of Twitter in the last three months of the study – after the Westgate attack. By contrast, Radio Andalus was fairly prolific prior to the fall of Kismayo, but only had intermittent broadcasts between October 2012 and September 2013. The lack of output would certainly affect the ability of Radio Andalus to be effective at influencing behavior since the radio station would have to actually broadcast to have the opportunity to be effective.

Table 10. Radio Effects on Mobilize for Jihad

	Radio Effects on Mobilize for Jihad		
	Mobilize for Jihad	Violence	Arrests
	(1)	(2)	(3)
Mobilize (1-day lag)	0.066*** (0.016)		
Violence (1-day lag)		-0.221 (0.450)	
Arrest (1-day lag)			0.062*** (0.015)
Strategic Authority	-1.445*** (0.482)	5.683*** (1.706)	-1.124** (0.460)
Group ID and Cohesion	-0.036 (0.333)	1.226 (1.285)	-0.020 (0.321)
Religious Authority	0.162 (0.374)	0.529 (2.191)	0.169 (0.367)
Operational Capacity	0.041 (0.219)	-1.017 (0.903)	-0.005 (0.211)
Total Radio Volume	-0.035 (0.112)	-0.240 (0.466)	-0.037 (0.108)
Constant	0.808*** (0.067)	-2.416*** (0.229)	0.844*** (0.066)
Observations	729	729	729
Note: *p<0.1; **p<0.05; ***p<0.01			

F. DISCUSSION

These results show that the statistical effectiveness of al-Shabaab propaganda varies by the theme and the manner in which it is disseminated. Al-Shabaab's overall propaganda efforts are statistically ineffective at generating the effects of degrade support, and counterproductive for mobilize for jihad. The effectiveness of the aggregated themes toward the desired effects does not tell the entire story though, and requires a nuanced review of how themes interact with effects and behaviors over different mediums. When taking a deeper look at how individual themes impact desired

effects and associated behaviors, the overall effectiveness of al-Shabaab's propaganda is shown to be a complicated amalgamation of the individual parts that don't necessarily create a coherent pattern.

Within a desired effect, propaganda themes can affect associated behaviors differently— sometimes with opposing results. This is particularly true when evaluating al-Shabaab's mobilize for jihad effect. Overall effectiveness was dependent upon the medium used, with strategic authority being effective on Twitter and counterproductive on Radio Andalus. When the mediums are aggregated together, strategic authority has an overall positive effect on mobilize for jihad, suggesting that Twitter is the stronger medium for propaganda. Conversely, group identity and cohesion has a negative relationship via Twitter for violence with a positive overall effect on mobilize for jihad, with no effectiveness via Radio Andalus. As the sources are aggregated, the same theme has no effect on individual behaviors, but does have an overall negative impact on the overall mobilize for jihad effect. Similar to strategic authority, the group identity and cohesion theme suggests that Twitter is the more effective means for mobilize for jihad.

These Twitter results don't readily translate into overall effects amongst all themes though. For example, the operational capacity's significant positive relationship in Twitter is not sustained when the sources are aggregated, having a negative impact for the overall effect. Religious authority exhibits similar behavior with a positive overall effect through Twitter, but is insignificant when propaganda sources are combined – indicating that while Twitter may be the stronger medium for communicating some propaganda themes, this is not so for all for all themes.

The variables that affect how a particular propaganda theme contributes to a behavior or desired effect are diverse and hard to identify as shown above. Particular themes may resonate stronger than others, may be better suited to a particular medium, or carry different weight in regards to certain behaviors within a desired effect. One theme that has a positive effect over Twitter could end up having an overall negative effect when also propagated over radio. Other factors that affect propaganda performance include the audience, message content, competition from adversaries, and frequency of

dissemination. At a minimum, propaganda needs to reach a large enough audience, be repeated, and be credible to have a positive effect for al-Shabaab.¹⁰⁶

Social media platforms like Twitter have the potential to meet these criteria since it is a publically available service that allows free and anonymous access to both al-Shabaab and its followers from anywhere in the world.¹⁰⁷ Twitter demonstrates promise for al-Shabaab's propaganda, with a significant impact on the mobilize for jihad desired effect when used to propagate messages with the strategic authority theme. Conversely, al-Shabaab's use of Twitter for group identity and cohesion was counterproductive, showing that social media can hurt as well as help.

Data analysis should be evaluated carefully since the relationship between propaganda and behavior cannot be solely defined through statistical correlation. Using the Westgate attack as an example, there was a spike in the strategic authority on Twitter during the attack as seen in Figure 8. Statistically speaking, al-Shabaab's Twitter use during the siege could be interpreted as effective according to the data in tables 6 and 9 that show strategic authority as having a positive statistical relationship with the mobilize for jihad effect and associated behaviors. This supports qualitative analysis conducted on al-Shabaab's media strategy following the attack, which primarily focused on the attack being a catalyst for al-Shabaab to effectively use social media.¹⁰⁸ Since this study is a cumulative evaluation over time instead of a case study of an isolated incident like Westgate, using statistical analysis to draw conclusions about the success of al-Shabaab's media strategy is perilous. This analysis is one tool to inform the overall judgment of an event like Westgate, and must be combined with other data to that provides further context and substance to the analysis.

¹⁰⁶ Tom Rieger, "Not all Radicals are the Same: Implications for Counter-Radicalization Strategy," in *Countering Violent Extremism, Scientific Methods & Strategies*, ed. Laurie Fenstermacher and Todd Leventhal (Wright-Patterson AFB, : Air Force Research Laboratories, 2011), 24.

¹⁰⁷ SITE Monitoring Service, "The Westgate Attack: A New Trend in al-Qaeda Communication Strategies," January 15, 2014, <https://news.siteintelgroup.com/Articles-Analysis/the-westgate-attack-a-new-trend-in-al-qaeda-communication-strategies.html>.

¹⁰⁸ Anzalone, "The Nairobi Attack and Al-Shabaab's Media Strategy," 6.

Further insight into Twitter effectiveness during the Westgate siege is found through study of overall Twitter activity during the attack. Other studies demonstrate al-Shabaab's Twitter activity was a small percentage of total activity compared to tweets from other actors. Tweets relating to threats, religion, terrorism, and distrust of the government were a tiny fraction of Twitter content during the siege, indicating al-Shabaab's message was drowned out by the larger volume of content not related to its narrative.¹⁰⁹ While al-Shabaab's propaganda themes were only minor mentions during the Westgate attack, the group itself was mentioned in 23.4 percent of tweets about Westgate, providing notoriety and amplifying the group's message through media attention.¹¹⁰

This higher level of exposure is expected from a spectacular attack that attracts international attention; however this exposure had mixed results in advancing al-Shabaab's narrative as seen with the small representation of al-Shabaab Twitter content combined with effectiveness through statistical analysis. Despite being a small representation of total Twitter activity, the strategic authority theme was still effective for al-Shabaab, but was counteracted by operational capacity's negative effects. Repeated suspensions of al-Shabaab's Twitter account could have also had a negative impact on al-Shabaab's Twitter effectiveness. Narrative was effective for degrading support through Twitter, but that effectiveness diminished when aggregated with other sources and themes also present in the information environment. Unlike the limited success observed for the mobilize for jihad effect, there were no sustained effects from Twitter for degrade support in this study, which may be attributed to the availability and reach of al-Shabaab's Twitter account.

Aside from the ability to reach a wide audience, al-Shabaab suffered a credibility problem with its messaging, further weakening the desired effects of the group. An example of the credibility gap during the Westgate attack is with how al-Shabaab is

¹⁰⁹ Brittany Card, Justine MacKinnon and Patrick Meier, "#Westgate Tweets: A Detailed Study in Information Forensics," November 18, 2013, <http://irevolution.net/2013/11/18/westgate-information-forensics/>.

¹¹⁰ Card, "#Westgate Tweets: A Detailed Study in Information Forensics".

referenced. While al-Shabaab consistently referred to the attackers as *mujahideen*, the attackers were most consistently referred to as thugs, gunmen, and terrorists by Twitter users during the attack – with thugs being the most common reference.¹¹¹ The attackers were also referred to as “al-Shabaab,” though the use of the group’s name peaked quickly before reverting to other monikers denoting terrorist or criminal. The short time frame for referring to the attackers as al-Shabaab is most likely due to the group claiming responsibility for the attack as illustrated in Figure 11.

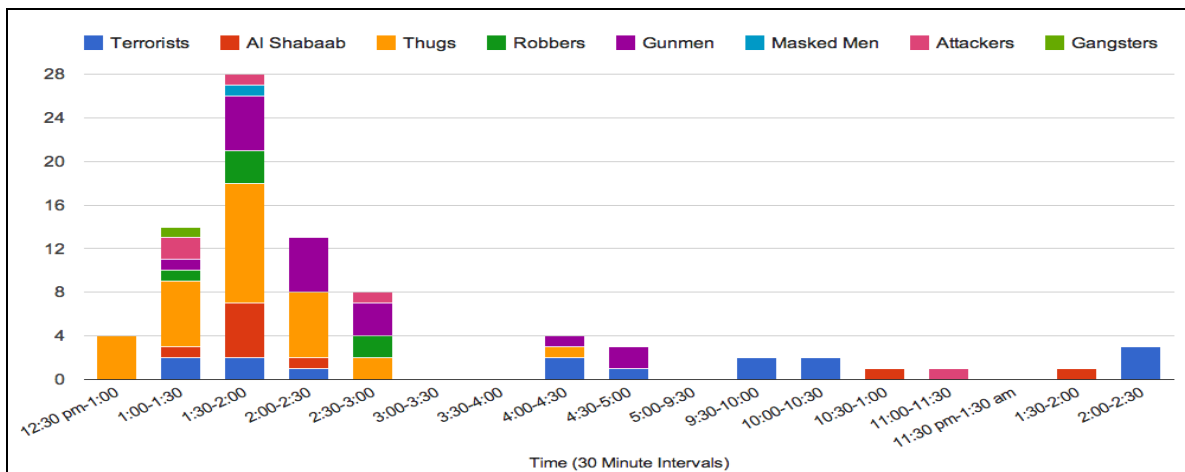


Figure 11. Terms Used to Reference Westgate Attackers¹¹²

Al-Shabaab’s radio propaganda presents the same problems of accessibility and credibility as Twitter. Advances by AMISOM forces and the KDF forced al-Shabaab to close Radio Andalus stations in Mogadishu and Kismayo, thus eliminating the two largest markets for listenership.¹¹³ Al-Shabaab’s declining control of southern and central Somali towns resulted in inconsistent broadcasting coverage, hindering the ability of the group to disseminate its message to a significant segment of the Somali population.¹¹⁴ This effect of AMISOM and Somali government success on Radio

¹¹¹ Ibid.

¹¹² Ibid.

¹¹³ *BBC News*, “Somalia Islamist Abandon Kismayo Amid AU Attack.”

¹¹⁴ *Terrace News*, “Somalia: Pro-Islamist Radio Andalus Still on Air in Two Somali Towns,” December 6, 2012, http://www.mediafrica.net/News_Popup.asp?Id=5808.

Andalus propagation is demonstrated with the dramatic drop in output shown in Figure 5 following the capture of Kismayo by the KDF in September 2012.

Compounding inconsistent reach and lack of access to significant Somali radio markets, Radio Andalus also suffers from a significant credibility problem. Surveys conducted under the auspices of the UN indicate that within Somalia, the top three most listened to stations are BBC Somali Service, Voice of America (VOA), and Radio Mogadishu – with Radio Andalus being the eleventh most listened to.¹¹⁵ When asked about how often a particular station is listened to, 70 percent of respondents listened to BBC Somali Service several times a week, compared to 42 percent for Radio Andalus.¹¹⁶ The most damning survey responses listed Radio Andalus as the least trustworthy radio station, falling below the BBC Somali Service, VOA, and Radio Mogadishu by a margin of 49 percent.¹¹⁷

The low trustworthiness of Radio Andalus results from the gap between al-Shabaab's messaging and reality on the ground. Messaging disseminated through Radio Andalus is heavily biased towards reporting al-Shabaab battlefield victories and government failures, as indicated by the heavy emphasis on the operational capacity and narrative themes shown in Figure 7. Al-Shabaab never mentions setbacks or defeats in its radio broadcasts, instead choosing to maintain a defiant tone against the Somali government and AMISOM.¹¹⁸ This defiant tone may reflect the intent of al-Shabaab, but fails to reflect the reality on the ground that populations can observe for themselves – particularly when AMISOM and Somali forces continue to oust al-Shabaab from strongholds such as Kismayo. With an easily identifiable gap between rhetoric and reality, the low trustworthiness rating for Radio Andalus should not be a surprise, partially explaining the statistical ineffectiveness of Radio Andalus to influence violence and protests. These observations are further demonstrated by the low overall effectiveness Radio Andalus had towards both mobilize for jihad and degrade support.

¹¹⁵ AU/UN Media Observatory Project, "Media Mapping Briefing Note," May 1, 2014, <http://somali-media.so/wp-content/uploads/2013/05/Somali-Media-Mapping-Report.pdf>.

¹¹⁶ AU/UN Media Observatory Project, "Media Mapping Briefing Note."

¹¹⁷ Ibid.

¹¹⁸ *Terrace News*, "Somalia: Pro-Islamist Radio Andalus Still on Air in Two Somali Towns."

V. CONCLUSION

Statistical analysis indicates that al-Shabaab's propaganda output does not readily translate into effects. Despite al-Shabaab's efforts with Radio Andalus and Twitter during the course of this study, the statistical models indicate that al-Shabaab's overall propaganda effort could be considered ineffective or counterproductive depending on the desired effect. Further analysis shows correlation between some themes and behaviors that correspond to desired effects; however these results fluctuate depending on format and total message volume. While individual behaviors such as critical media or violence may increase with certain propaganda themes or methods, behaviors are only components of an effect and are not conclusive without also evaluating how the propaganda themes behave across aggregated behaviors. Certain themes such as strategic authority and group identity and cohesion demonstrated effectiveness from Twitter through individual behaviors through the aggregated effect, indicating those themes are particularly important for al-Shabaab. These statistics serve as a useful starting point for understanding and tackling the persistent problem of al-Shabaab in the Horn of Africa. Statistics, however, do not determine causality and must be carefully evaluated within the context of the larger environment. Further examination is required to determine why al-Shabaab's propaganda effectiveness is statistically limited, and what this means for counterterrorism policy in the Horn of Africa.

A. OPPORTUNITIES FOR FURTHER ANALYSIS

This study sought to determine the effectiveness of al-Shabaab's propaganda during a dynamic operational period for the group. The timeframe of this study includes al-Shabaab's most significant defeat with the loss of Kismayo, through successes such as the merger with al-Qaeda and the spectacular attack in the siege on the Westgate Mall. To gain a fuller understanding of al-Shabaab's propaganda effectiveness would require further longitudinal analysis of the group's efforts from its split with the ICU in 2007 through its control of Mogadishu to identify any fluctuations in patterns of propaganda

and behaviors.¹¹⁹ This would allow a comparison between the rise of al-Shabaab as a splinter movement of the ICU, through the height of its power, to where the group is today.

While a statistical analysis of al-Shabaab's propaganda provides an optic into effectiveness, more study needs to be conducted as to reasons why the propaganda is generating inconsistent effects. Quantitative and statistical analysis provides a partial explanation, however a detailed qualitative analysis is required to examine how the content of the propaganda resonates or fails to resonate with the targeted audience. Such an analysis requires access to the Somali population both within Somalia and throughout the vast diaspora to gauge reactions to al-Shabaab's messaging. Qualitative analysis would also provide feedback into more statistical analysis by identifying additional variables to study and refining current assumptions and data.

Quantitative and qualitative analysis of the interaction between al-Shabaab's propaganda efforts with the information programs of Western and regional governments is another topic that deserves attention. The statistical ineffectiveness of al-Shabaab's propaganda identified in this study does not imply that competing information efforts are successful. Western and regional efforts to influence behavior could be just as ineffective as al-Shabaab's efforts, with other factors such as famine and poverty having causal relationships to population behavior. Effective or not, friendly information programs require an honest assessment compared to al-Shabaab efforts to determine how to wisely allocate limited resources for regional influence.

This study focused on analyzing behaviors from a statistical standpoint without accounting for risk acceptance from Western and regional societies. A qualitative analysis of risk acceptance in regards to terrorist propaganda and population behavior would provide another useful optic towards propaganda effectiveness. Governments and populations from the Horn of Africa will have a different tolerance of risk for al-Shabaab recruitment than Western societies due to proximity to Somalia, current military

¹¹⁹ *BBC News*, "Somalia's al-Shabab Rebels Leave Mogadishu," August 6, 2011. www.bbc.co.uk/news/world-africa-14430283.

commitments, and previous experiences with being attacked. Conversely, Western countries may be more sensitive to non-ethnic Somalis with passports being recruited from within their borders and returning after gaining experience fighting in Somalia. While the recruitment of a single Muslim convert from Alabama to fight in Somalia might not be statistically significant, it could carry greater weight for policy makers who have a lower risk tolerance for foreign fighter recruitment from within the borders of the United States.

B. RECOMMENDATIONS

Statistical results show that al-Shabaab's overall ability to influence is in decline with regard to their Twitter and radio propaganda. From an operations and policy perspective, the urge to "counter" al-Shabaab propaganda needs to be carefully reconsidered. As the target of al-Shabaab's virulent rhetoric, regional and Western governments must weigh the effectiveness of that rhetoric with the compulsion to directly confront al-Shabaab in the information environment. Directly countering ineffective al-Shabaab messaging runs the danger of lending credibility to a message that was not credible to begin with, and such efforts have been argued to be "ineffective at changing an attitude or behavior" if not coupled with programs that enable greater social cohesion.¹²⁰ With this in mind, options for gaining an advantage over al-Shabaab in the information environment include continuing to degrade al-Shabaab's ability to propagate its message, highlighting alternatives to al-Shabaab, and highlighting discrepancies in al-Shabaab messaging.

As noted with Radio Andalus, decreasing al-Shabaab's ability to disseminate its message decreases effectiveness through minimizing reach. Messaging requires extensive reach, repetition, and credibility to be effective.¹²¹ Disruption of propaganda platforms affects two of the three variables through reach and frequency. Multiple suspensions of

¹²⁰ Alexis Everington, "Prevention of Violent Extremism: What are the People Saying?," in *Countering Violent Extremism, Scientific Methods & Strategies*, ed. Laurie Fenstermacher and Todd Leventhal (Wright-Patterson AFB: Air Force Research Laboratories, 2011), 24.

¹²¹ Tom Rieger, "Not all Radicals are the Same: Implications for Counter-Radicalization Strategy," 24.

al-Shabaab's Twitter account resulted in the group having a small fraction of its peak followership throughout its most high profile attack at the Westgate Mall. During month of September 2013, al-Shabaab was never able to directly reach more than 1,400 people, with a number of those being journalist and media outlets.¹²² Relying on journalists and media outlets to disseminate its message effectively placed control of the message outside of al-Shabaab's control and diluted the message. Media organizations and journalists had the option to distribute, or not distribute al-Shabaab messages, and to provide editorial commentary on the message in the process.

Disrupting al-Shabaab's Twitter presence has a secondary benefit besides limiting the group's reach. Every time al-Shabaab came back online a new account name had to be disseminated to al-Shabaab's followers. While suspended, opportunists had the ability to create fake accounts to propagate misinformation using account names similar to those previously used by al-Shabaab. Sometimes these accounts even get suspended, thus lending further credibility to the fake account. This is a drawback for jihadist organizations using a free, readily available microblogging service like Twitter to shape a narrative. While Twitter allows al-Shabaab to instantly interact with supporters and the media, duplicate accounts create confusion, draw potential followers away from the real account, and corrupt the reliability of messages.¹²³ This scenario played out with fake accounts disseminating false information about the Westgate attackers that was widely distributed by the media. One such account released the supposed names and nationalities of the attackers and claimed that the attackers were predominately from the United States, Canada, and Europe – forcing al-Shabaab to spend valuable time to correct the hijacked narrative.¹²⁴

¹²² Open Source Center, "Al-Shabaab Twitter Account Claims Responsibility For Nairobi Mall Attack," September 22, 2013, <https://opensource.gov>.

¹²³ SITE Monitoring Service, "The Westgate Attack: A New Trend in Al-Qaeda Communication Strategy."

¹²⁴ Sudarsan Raghavan, "Gunmen Who Stormed Kenya Mall Reportedly Spoke English, Were from Different Countries," *Washington Post*, September 24, 2013. http://www.washingtonpost.com/world/africa/explosions-gunfire-at-kenyan-mall-as-armed-attack-enters-3rd-day/2013/09/23/b0b558be-2442-11e3-b3e9-d97fb087acd6_story.html.

Counterterrorism agencies could use Twitter's openness against al-Shabaab to limit its reach. Account closures generated by Twitter were a result of al-Shabaab violating Twitter terms and conditions, which agencies could use to follow accounts and report violations to Twitter. Agencies could also create dummy accounts using derivatives of al-Shabaab's account name to limit the group's options for quickly regenerating its Twitter presence. Not only would this limit al-Shabaab's reach, but also provide the opportunity to quickly capitalize on opportunities to surreptitiously spread rumors and false information to corrupt al-Shabaab's messaging strategy during a high profile event or period of vulnerability.

The best way to limit the reach of al-Shabaab radio stations would be to continue applying military pressure on al-Shabaab strongholds. When faced with losing a town where a Radio Andalus station is located, al-Shabaab historically relocates radio station equipment to avoid having it captured.¹²⁵ Some of this equipment formerly belonged to other radio stations taken over by al-Shabaab, such as Radio Qoran in southern Somalia, which should be replaced through aid and exchange programs for prompt reestablishment once al-Shabaab is ousted.¹²⁶ As AMISOM or Somali forces prepare to liberate a population center where Radio Andalus operates, mobile radio stations could get former programs broadcasting again to provide a credible and alternative voice to al-Shabaab's content. Providing a messaging platform that is not only an alternate to Radio Andalus, but is also credible and recognizable from pre-al-Shabaab control would accomplish more to counter Radio Andalus than would directly confrontation with al-Shabaab's messaging.

Countering Radio Andalus broadcasts with government or commercial stations is an initial step towards offering a credible alternative to al-Shabaab's rhetoric, though the messaging must be backed up with action to be credible. Al-Shabaab messaging is

¹²⁵ *Terrace News*, "Somalia: Pro-Islamist Radio Andalus Still on Air in Two Somali Towns."

¹²⁶ Mohamed Husein Gaas, Stig Jarle Hansen, and David Berry, "Mapping the Somali Media: an Overview," Norwegian University of Life Sciences Department of International Environment and Development Studies, March 2012, http://www.umb.no/statisk/noragric/publications/reports/noragric_report_no._65cover.pdf.

predominately focused on defeating Somali and AMISOM forces while countering Western influence and establishing an Islamic state based on *sharia* law.¹²⁷ Like other jihadi movements that attempt to govern and control populations, the message and execution of al-Shabaab programs are long in bluster and rhetoric but fall short on meeting societal needs.¹²⁸ This leaves a void that government and independent radio can fill with content focused on increasing social capital and highlighting local through national governments as alternatives to al-Shabaab rule.

While violent extremist organizations may “enjoy a degree of perceived legitimacy due to the presence of an unpopular domestic or local regional government,” this perception can be flipped on al-Shabaab’s unpopular rule in Somalia to increase government legitimacy as an alternative to al-Shabaab.¹²⁹ Radio programming by itself will not provide legitimacy for the Somali government, but will instead act as an important catalyst towards increasing local credibility. Care must be taken to avoid falling to the same trap as al-Shabaab by focusing messaging on one-sided coverage of the conflict and denigrating the adversary through consistently pointing out perceived failures. This study has shown these information tactics by al-Shabaab to be statistically ineffective with the negative effectiveness of the relevance, operational capacity, and group identity and cohesion themes. Unlike Radio Andalus, messaging should reinforce what the audience can see for themselves, and not attempt to cover up setbacks through verbal posturing. More effective messaging would instead acknowledge setbacks, identify remedies, and welcome commentary. Doing this would undercut al-Shabaab’s narrative without directly addressing its propaganda, particularly if the Somali government and AMISOM focused their messaging efforts on transition of security tasks from AMISOM to Somali forces to undercut perceptions of foreign occupation.

¹²⁷ Melegrou-Hitchens, “Lights, Camera, Jihad: Al-Shabaab’s Western Media Strategy,” 39.

¹²⁸ Cheryl Benard, “The Mechanics of De-Legitimization,” in *Countering Violent Extremism, Scientific Methods & Strategies*, ed. Laurie Fenstermacher and Todd Leventhal (Wright-Patterson AFB, OH: Air Force Research Laboratories, 2011), 117.

¹²⁹ Alexis Everington, “Prevention of Violent Extremism: What Are the People Saying?” 87.

As a supplement to providing alternatives to al-Shabaab, efforts could be made to highlight discrepancies in al-Shabaab's narrative. An easy target would be to focus on al-Shabaab as a fractured movement through publicizing defections of fighters from al-Shabaab and airing interviews indicating their reasons for leaving the group. Opportunities already exist in this regard with a former leader of al-Shabaab, Shaykh Hasan Dahir Aweys, surrendering to Somali authorities following a dispute with al-Shabaab's late emir Ahmed Abdi Godane.¹³⁰ Aweys has already been an outspoken critic of al-Shabaab policy and strategy, giving radio interviews prior to his surrender that criticized al-Shabaab's relationship with al-Qaeda and the indiscriminate killing of Muslims.¹³¹ With Aweys' nationalist aims being at odds with al-Shabaab's transnational jihad ambitions, combined with his former leadership roles in the Somali Army and ICU, he could prove to be valuable as a credible voice of dissent from al-Shabaab—which would resonate with Somali audiences.

To counter foreign fighter recruitment, highlighting the plight of Omar Hammami would be useful. Hammami's fall from his position as the Western spokesman of the group to being hunted and assassinated by the intelligence unit of al-Shabaab, the *Amniyat*, is a cautionary tale for potential recruits.¹³² Through Hammami's prolific online output chronicling his troubles with al-Shabaab, Hammami provided plenty of seed material for government messaging to show the true plight of foreigners who answer the call to *hijrah* in Somalia. By making use of Hammami's posthumous testimony with statements from Aweys, the appeal of al-Shabaab could be undercut when also combined with presenting a viable alternative to the group's violence.

When highlighting the discrepancies in al-Shabaab messaging, care must be taken to avoid directly responding to specific messages from the group, instead focusing on friendly themes that undercut al-Shabaab legitimacy. This study has provided evidence that al-Shabaab's influence is in decline with its aggregated propaganda having no

¹³⁰ Roble, "Civil War Breaks Out Within Al-Shabaab," 2.

¹³¹ Thomas, "Exposing and Exploiting Weaknesses in the Merger of Al-Qaeda and Al-Shabaab," 418.

¹³² Roble, "Civil War Breaks Out within Al-Shabaab," 2.

significance toward the group's ability to degrade support to its adversaries, and being statistically counterproductive towards mobilization for jihad. The negative effects of al-Shabaab's operational capacity theme provide opportunities for regional governments to highlight discrepancies between propaganda and reality. Coupled with providing credible alternatives to al-Shabaab and disrupting propaganda sources, al-Shabaab's influence can be diminished to a negligible level, enabling better stability in Somalia.

LIST OF REFERENCES

- Abrahms, Max. "Why Terrorism Does Not Work," *International Security* 31, no. 2 (Autumn 2006) pp 42–78. <http://www.jstor.org/stable/4137516>.
- Anzalone, Christopher. "The Nairobi Attack and Al Shabab's Media Strategy," *CTC Sentinel* 6, no .10 (October 2013): 1–6.
- AU/UN Media Observatory Project. "Media Mapping Briefing Note," May 1, 2014. <http://somali-media.so/wp-content/uploads/2013/05/Somali-Media-Mapping-Report.pdf>.
- BBC News. "Somalia Islamist Abandon Kismayo Amid AU Attack," September 29, 2012, <http://www.bbc.com/news/world-africa-19769058> .
- Benard, Cheryl. "The Mechanics of De-Legitimization," in *Countering Violent Extremism, Scientific Methods & Strategies*, edited by Laurie Fenstermacher and Todd Leventhal, 106–110. Wright-Patterson AFB, : Air Force Research Laboratories, 2011..
- Bond, Michael. "The Making of a Suicide Bomber," *New Scientist* 182 no. 2447 (May, 2004): 34–37. <http://search.proquest.com/docview/200349321?accountid=12702> .
- Card, Brittany, Justine MacKinnon and Patrick Meier, "#Westgate Tweets: A Detailed Study in Information Forensics," November 18, 2013. <http://irevolution.net/2013/11/18/westgate-information-forensics/>.
- Cody, Edward. "France Fails to Free Intelligence Agent Held Captive in Somalia," *The Washington Post*, January 12, 2013. http://www.washingtonpost.com/world/hostage-in-somalia-killed-during-french-rescue-attempt/2013/01/12/963c42e2-5cae-11e2-9fa9-5fbdc9530eb9_story.html.
- Conrad, David, and Andrea Crossan. "How Al-Shabaab is Creating a Media Empire and Creating Chaos in Kenya," *Public Radio International*, June 27, 2014, <http://www.pri.org/stories/2014-06-27/how-al-shabab-building-media-empire-and-creating-chaos-kenya>.
- De Mesquita, Ethan Bueno, and Eric S. Dickson. "The Propaganda of the Deed: Terrorism, Counterterrorism, and Mobilization," *American Journal of Political Science* 51, no. 2, (April 2007), pp 364–381. <http://www.jstor.org/stable/4620071>.
- Department of Defense. *Department of Defense Dictionary of Military and Associated Terms* (Joint Publication 1–02), November 2010. http://www.dtic.mil/doctrine/new_pubs/jp1_02.pdf.

- Department of Defense, *Information Operations* (Joint Publication 3–13), November 2012. http://www.dtic.mil/doctrine/new_pubs/jp3_13.pdf.
- Everington, Alexis. “Prevention of Violent Extremism: What are the People Saying?” In *Countering Violent Extremism, Scientific Methods & Strategies*, edited by Laurie Fenstermacher and Todd Leventhal, 78–83. Wright-Patterson AFB, OH: Air Force Research Laboratories, 2011.
- Hiiraan Online, “Somali Minister Calls for Expulsion of AMISOM from Kismayo,” July 1, 2013. http://www.hiiraan.com/news4/2013/July/30103/somali_minister_calls_for_expulsion_of_amisom_from_kismayo.aspx#sthash.rvV23Me0.dpbs.
- Hussein, Abdirahman, and Abdi Sheikh. “Al-Shabaab Bombers Strike Mogadishu Restaurant, 15 Dead,” *Reuters*, September 7, 2013. <http://www.reuters.com/article/2013/09/07/us-somalia-blasts-idUSBRE98607I20130907>.
- Gaas, Mohamed Husein., Stig Jarle Hansen, and David Berry. “Mapping the Somali Media: an Overview,” Norwegian University of Life Sciences Department of International Environment and Development Studies, March 2012. http://www.umb.no/statisk/noragric/publications/reports/noragric_report_no._65cover.pdf.
- Jones, Seth G. *The Terrorist Threat from Al-Shabaab*. Santa Monica, CA: RAND, 2013.
- Kydd, Andrew H. and Barbara F. Walter. “The Strategies of Terrorism,” *International Security* 31 no. 1 (Summer 2006), pp. 49–80.
- Melegrou-Hitchens, Alexander, Shiraz Maher, and James Sheehan. “Lights, Camera, Jihad: Al-Shabaab’s Western Media Strategy,” The international Centre for the Study of Radicalisation and Political Violence, November, 2012, www.icsr.info.
- Morse, Jane. “Somalia’s Fledgling Democracy Wins U.S. Recognition,” Department of State International Information Program, 17 January 2013. <http://iipdigital.usembassy.gov>.
- Obore, Chris. “UPDF Bosses Suspended Over Stealing Food,” *Daily Monitor*, July 14, 2013. <http://www.monitor.co.ug/News/National/UPDF-bosses-suspended-over-stealing-food/-/688334/1913926/-/r2tf3l/-/index.html>.
- Open Source Center, “Al-Shabaab Finds Document Revealing Plans by European Nations for Somalia,” February 5, 2012, <https://opensource.gov>.
- .———. “Highlights of Al-Shabaab’s Twitter Account: 3 - 12 Jan 2012.” January 13, 2012, <https://opensource.gov>.

- . “FYI -- Al-Shabaab-Owned Radio Andalus Off Air Since 27 Sep,” October 2, 2012, <https://opensource.gov>.
- . “Highlights of al-Shabaab’s Twitter Account: 9–14 November 2012,” November 15, 2012, <https://opensource.gov>.
- . “Highlights of al-Shabaab’s Twitter Account: 10–17 January 2013,” January 18, 2013, <https://opensource.gov>.
- . “Program Summary: Baydhabo Radio Andalus in Somali” February 3, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 17–24 May 2012,” May 25, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 8 - 14 Aug 2013,” August 15, 2013, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 29 August - 4 September 2013,” September 5, 2013, <https://opensource.gov>.
- . “Somalia’s Al-Shabaab Claims Responsibility for Mogadishu ‘Explosions,’ ” July 30, 2012, <https://opensource.gov>.
- . “Somalia’s Al-Shabaab Terms Mogadishu Twin Suicide Attacks as Successful,” July 30, 2012, <https://opensource.gov>.
- . “Program Summary: Baydhabo Radio Andalus in Somali,” January 12, 2012, <https://opensource.gov>.
- . “Program Summary: Andalus Radio in Somali,” September 22, 2013, <https://opensource.gov>.
- . “OSC Summary -- Highlights of Al-Shabaab’s Twitter Account: 10 - 16 Feb 2012,” February 17, 2012, <https://opensource.gov>.
- . “OSC Summary -- Highlights of Al-Shabaab’s Twitter Account: 15–22 Mar,” March 23, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 22 - 29 Mar 2012,” March 30, 2012 <https://opensource.gov>.
- . “Program Summary: Kismaayo Radio Andalus” June 20, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 15 - 21 August 2013,” <https://opensource.gov>.

- . “Highlights of Al-Shabaab’s Twitter Account: 19–25 July 2012,” July 26, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 10–16 August 2012,” August 17, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 17–23 August 2012,” August 24, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 18 - 25 Oct 2012,” October 26, 2012, <https://opensource.gov>.
- . “Al-Shabaab, KDF Spokesman Post Updates on Kismaayo Situation: 27 Sep - 3 Oct 2012,” October 4, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 4 - 10 Oct 2012,” October 11, 2012, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 10 - 17 January 2013,” January 18, 2013, <https://opensource.gov>.
- . “Twitter Suspends Al-Shabaab Account; User Reaction Mixed.” January 25, 2013, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 3 - 7 Feb 2013.” February 7, 2013, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 10 - 11 September 2013.” September 12, 2013, <https://opensource.gov>.
- . “Al-Shabaab Twitter Account Claims Responsibility For Nairobi Mall Attack,” September 22, 2013, <https://opensource.gov>.
- . “Highlights of Al-Shabaab’s Twitter Account: 27 September - 3 October 2013,” October 4, 2013, <https://opensource.gov>.
- . “OSC Summary -- Al-Shabaab, Kenyan Military Spokesman Engage in Twitter Debate,” December 13, 2012, <https://opensource.gov>.
- . “Somalia: *Twitter* Suspends Fifth Al-Shabaab Account for Posting Details of Nairobi Mall Siege,” September 23, 2013, <https://opensource.gov>.
- . “OSC Observation -- Al-Shabaab Allegedly Launches New Twitter Account.” September 23, 2013, <https://opensource.gov>.
- . “OSC Observation -- Twitter Suspends Sixth Al-Shabaab Account,” October 4, 2013, <https://opensource.gov>.

- Roble, Muhyadin Ahmed. "Kenya: Civil War Breaks Out Within Al-Shabaab," *Global Information Network*, October 22, 2013, ProQuest, <http://search.proquest.com/docview/1443845857?accountid=12702>.
- Raghavan, Sudarsan. "Gunmen Who Stormed Kenya Mall Reportedly Spoke English, Were From Different Countries," *Washington Post*, September 24, 2013. http://www.washingtonpost.com/world/africa/explosions-gunfire-at-kenyan-mall-as-armed-attack-enters-3rd-day/2013/09/23/b0b558be-2442-11e3-b3e9-d97fb087acd6_story.html.
- Roble, Muhyadin Ahmed. "Kenya: Civil War Breaks Out Within Al-Shabaab," *Global Information Network* (October 22, 2013), ProQuest, <http://search.proquest.com/docview/1443845857?accountid=12702>.
- Rieger, Tom. "Not all Radicals are the Same: Implications for Counter-Radicalization Strategy," In *Countering Violent Extremism, Scientific Methods & Strategies*, edited by Laurie Fenstermacher and Todd Leventhal, 24–28. Wright-Patterson AFB, OH: Air Force Research Laboratories, 2011.
- SITE Monitoring Service, "The Westgate Attack: A New Trend in al-Qaeda Communication Strategies," January 15, 2014. <https://news.siteintelgroup.com/Articles-Analysis/the-westgate-attack-a-new-trend-in-al-qaeda-communication-strategies.html>.
- Soi, Nicholas, and Robyn Dixon. "Kenyan Siege Ends; Toll at 72," *Los Angeles Times*, September 25, 2013, <http://articles.latimes.com/2013/sep/25/world/la-fg-kenya-mall-20130925>.
- Terrace News, "Somalia: Pro-Islamist Radio Andalus Still on Air in Two Somali Towns," December 6, 2012. http://www.mediafrica.net/News_Popup.asp?Id=5808.
- Thomas, Matthew J. "Exposing and Exploiting Weaknesses in the Merger of Al-Qaeda and Al-Shabaab," *Small Wars & Insurgencies* 24, no. 3 (August 2013): 413–435. doi: 10.1080/09592318.2013.802611 .
- Umaña, Felipe. "The Recovery of Somalia: Check Back With Us Again Next Year," Fund for Peace Failed State Index, June 24 2013. www.library.fundforpeace.org/fsi13-somalia.
- Vidino, Lorenzo, Raffaello Pantucci, and Evan Kohlmann. "Bringing Global Jihad to the Horn of Africa: al-Shabaab, Western Fighters, and the Sacralization of the Somali Conflict," *African Security* 3, no. 4, (November 2010): 216–238. doi: 10.1080/19392206.2010.533071.

Yusuf Mohammed. "Al-Shabaab Radio Station off the Air in Somali Capital," May 24, 2012. <http://www.voanews.com/content/al-shabab-radio-station-off-the-air-in-somali-capital/940395.html>.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California